



US009328062B2

(12) **United States Patent**
Fukazawa et al.

(10) **Patent No.:** **US 9,328,062 B2**
(45) **Date of Patent:** **May 3, 2016**

(54) **IMIDE COMPOUND, METHOD FOR MANUFACTURING SAME, AND USE AS INSECTICIDE**

(58) **Field of Classification Search**

None

See application file for complete search history.

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(56) **References Cited**

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FOREIGN PATENT DOCUMENTS

WO	2005/021488	3/2005
WO	2005/073165	8/2005

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(57) **ABSTRACT**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

The invention provides an imide compound represented by the following Formula (1) and an insecticide including the imide compound:

(21) Appl. No.: **14/433,787**

(22) PCT Filed: **Oct. 4, 2012**

(86) PCT No.: **PCT/JP2012/075844**

§ 371 (c)(1),

(2) Date: **Apr. 6, 2015**

(87) PCT Pub. No.: **WO2014/054158**

PCT Pub. Date: **Apr. 10, 2014**

(65) **Prior Publication Data**

US 2015/0246872 A1 Sep. 3, 2015

(51) **Int. Cl.**

C07C 237/52 (2006.01)

C07C 231/12 (2006.01)

A01N 37/26 (2006.01)

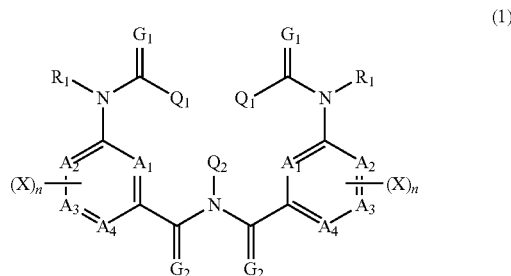
A01N 37/48 (2006.01)

C07C 237/42 (2006.01)

A01N 37/46 (2006.01)

(52) **U.S. Cl.**

CPC **C07C 237/52** (2013.01); **A01N 37/26** (2013.01); **A01N 37/46** (2013.01); **A01N 37/48** (2013.01); **C07C 231/12** (2013.01); **C07C 237/42** (2013.01)



wherein, each of A₁, A₂, A₃, and A₄ represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R₁ represents a hydrogen atom, an alkyl group which may be substituted, or a C2-C4 alkylcarbonyl group which may be substituted; each of G₁ and G₂ independently represents an oxygen atom or a sulfur atom; each X may be the same as or different from one another and represents a hydrogen atom, a halogen atom, a C1-C3 alkyl group, or a trifluoromethyl group; n represents an integer from 0 to 4; and each of Q₁ and Q₂ represents a phenyl group, naphthyl group, or a heterocyclic group, each of which may be substituted.

10 Claims, No Drawings

1

IMIDE COMPOUND, METHOD FOR MANUFACTURING SAME, AND USE AS INSECTICIDE

TECHNICAL FIELD

The invention relates to an imide compound, a method for manufacturing the imide compound, and an insecticide.

BACKGROUND ART

A compound as an insecticide similar to the compound according to the invention is described in the pamphlet of International Publication WO 2005/21488. Another compound as an insecticide similar to the compound according to the invention is described in the pamphlet of International Publication WO 2005/73165.

SUMMARY OF INVENTION

Technical Problem

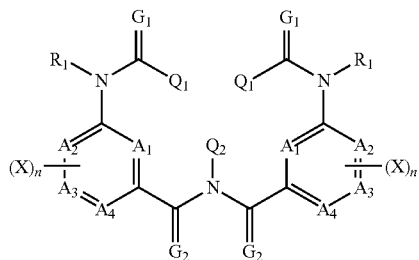
It is apparent that the compound described in the pamphlet of international Publication WO 2005/21488 and the compound described in the pamphlet of International Publication WO 2005/73165 are out of the scope of the claims according to the present invention.

An object of the invention is to provide an imide compound with a high insecticidal effect. Another object of the invention is to provide a method for manufacturing the imide compound, an insecticide including the imide compound as an active ingredient, and a mixed preparation obtained by combining the imide compound with other insecticide and/or fungicide.

Solution to Problem

As a result of intensive studies by the present inventors to solve the problem, it was found that the imide compound according to the invention is a novel compound unknown in the literature and has a particularly high insecticidal effect, whereby novel use of the imide compound is provided. The inventors also found a novel compound unknown in the literature that is useful as an intermediate for manufacturing the compound according to the invention. As a result, the invention has been completed. That is, the present invention is as follows.

[1] An imide compound represented by the following Formula (1).



In Formula (1), each of A₁, A₂, A₃, and A₄ independently represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; each R₁ independently represents a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a

2

C2-C4 alkylcarbonyl group which may be substituted; each of G₁ and G₂ independently represents an oxygen atom or a sulfur atom; each X independently represents a hydrogen atom, a halogen atom, a C1-C3 alkyl group, or a trifluoromethyl group; when there are two or more X's, each X may be the same as or different from one another; and n represents an integer from 0 to 4; and

wherein each Q₁ independently represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted; and Q₂ represents a phenyl group or a heterocyclic group, each of which has one or more substituents, wherein at least one of the one or more substituents represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group.

[2] The imide compound according to [1], in which, in Formula (1),

each R₁ independently represents a hydrogen atom or a C1-C4 alkyl group;

each X independently represents a hydrogen atom, a halogen atom, or a trifluoromethyl group;

each Q₁ independently represents:

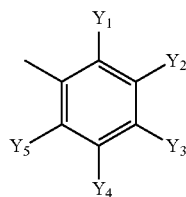
a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetylamino group and a phenyl group; or

a heterocyclic group selected from the group consisting of a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a pyrazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, an imidazolyl group, a triazolyl group, a pyrrole group, a pyrazolyl group and a tetrazolyl group, wherein the heterocyclic group may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetylamino group and a phenyl group; and

3

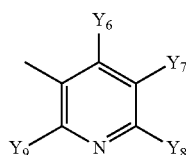
Q₂ represents:

a phenyl group having a substituent represented by the following Formula (2):



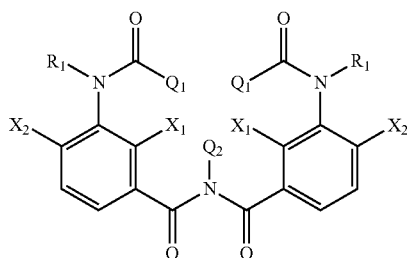
wherein, in Formula (2), each of Y₁ and Y₅ independently represents a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, or a cyano group; Y₃ represents a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group; and each of Y₂ and Y₄ independently represents a hydrogen atom, a halogen atom, or a C1-C4 alkyl group; or

a pyridyl group having a substituent represented by the following Formula (3):



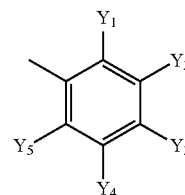
in Formula (3), each of Y₆ and Y₉ independently represents a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, or a cyano group; Y₈ represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group; and Y₇ represents a hydrogen atom, a halogen atom, or a C1-C4 alkyl group.

[3] The imide compound according to [2], which is represented by the following Formula (1a):



in Formula (1a), Q₂ represents a phenyl group having a substituent represented by the following Formula (2):

4



in Formula (2), each of Y₁ and Y₅ independently represents a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, or a cyano group; Y₃ represents a C2-C6 perfluoroalkyl group; and each of Y₂ and Y₄ independently represents a hydrogen atom or a C1-C4 alkyl group,

each of X₁ and X₂ independently represents a hydrogen atom or a fluorine atom; R₁ represents a hydrogen atom or a C1-C4 alkyl group; and

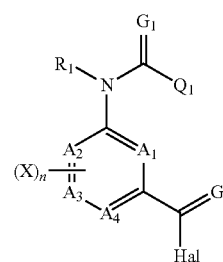
Q₁ represents:

a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a cyano group and a nitro group,

a pyridyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a cyano group and a nitro group.

[4] A method of manufacturing the imide compound represented by Formula (1) according to [1], the method including:

reacting a compound represented by the following Formula (4) with a compound represented by the following Formula (5):



in Formula (4), each of A₁, A₂, A₃, and A₄ independently represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R₁ represents a hydrogen atom, a C1-C4 alkyl group, or a C1-C4 alkylcarbonyl group; each of G₁ and G₂ independently represents an oxygen atom or a sulfur atom; each X independently represents a hydrogen atom, a halogen atom, a C1-C3 alkyl group, or a trifluoromethyl group; when there are two or more X's, each X may be the same as or different from one another; and n represents an integer from 0 to 4;

Q₁ represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted; and Hal represents a chlorine atom or a bromine atom,

5



(5)

in Formula (5), Q_2 represents a phenyl group or a heterocyclic group, each of which has one or more substituents, in which at least one of the one or more substituents represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfanyl group, or a C1-C6 perfluoroalkylsulfonyl group.

[5] The method of manufacturing the imide compound according to [4], in which Q_1 in Formula (4) represents:

a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfanyl group, a C1-C3 haloalkylsulfanyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetilamino group and a phenyl group; or

a heterocyclic group selected from the group consisting of a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a pyrazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, an imidazolyl group, a triazolyl group, a pyrrole group, a pyrazolyl group and a tetrazolyl group, wherein the heterocyclic group may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfanyl group, a C1-C3 haloalkylsulfanyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetilamino group and a phenyl group.

[6] An insecticide comprising, as an active ingredient, the imide compound according to any one of [1] to [3].

[7] An agricultural/horticultural insecticide comprising, as an active ingredient, the imide compound according to any one of [1] to [3].

[8] method of using of an imide compound for protecting useful crops from pests, including treating a target useful crop or soil with an effective amount of the imide compound according to any one of [1] to [3].

[9] A composition including the imide compound according to any one of [1] to [3] and at least one of an inert carrier or an adjuvant.

[10] A mixed preparation including the imide compound according to any one of [1] to [3] and at least one selected from a pesticide or a fungicide, other than the imide compound.

6

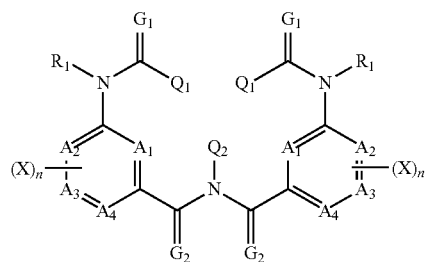
Advantageous Effects of Invention

According to the invention, there can be provided an imide compound with a high insecticidal effect. In addition, according to the invention, there can be provided a method for manufacturing the imide compound, an insecticide including the imide compound as an active ingredient, and a mixed preparation obtained by combining the imide compound with other insecticide and/or fungicide.

DESCRIPTION OF EMBODIMENTS

The imide compound according to the invention is characterized in that it is represented by the following Formula (1).

The imide compound according to the invention exhibits a significant control effect as an insecticide at a low dose, and also exhibits a significant control effect when used in combination with other insecticides, miticides, nematocides, fungicides, herbicides, plant growth regulators, biological agricultural chemicals, or the like.



(1)

In Formula (1), each of A_1 , A_2 , A_3 , and A_4 independently represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom. Each R_1 represents a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a C1-C4 alkylcarbonyl group which may be substituted. Each of G_1 and G_2 independently represents an oxygen atom or a sulfur atom. Each X represents a hydrogen atom, a halogen atom, a C1-C3 alkyl group, or a trifluoromethyl group; and when there are two or more X 's, each X may be the same as or different from one another; and n represents an integer from 0 to 4.

Each Q_1 represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted. Q_2 represents a phenyl group or a heterocyclic group, each of which has one or more substituents, in which at least one of the one or more substituents represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfanyl group, or a C1-C6 perfluoroalkylsulfonyl group.

The terms used in the formulae including Formula (1) and the like according to the invention, have the meanings as described below in the definitions.

The "halogen atom" represents a fluorine atom, a chlorine atom, a bromine atom, or an iodine atom.

With regard to the expression "Ca-Cb (wherein a and b represent an integer of 1 or more)", for example, "C1-C3" means the number of carbon atoms of from 1 to 3, "C2-C6" means the number of carbon atoms of from 2 to 6, and "C1-C4" means the number of carbon atoms of from 1 to 4.

"n-" means normal and "t-" means tertiary (tert-).

The "C1-C4 alkyl group which may be substituted" represents a linear, branched, or cyclic alkyl group having from 1 to 4 carbon atoms that may have one or more substituents,

which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a hydroxy group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy group, a C1-C6 haloalkylcarbonyloxy group, an amino group, a mono-(C1-C6) alkylamino group, a di-(C1-C6) alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The "C2-C4 alkylcarbonyl group which may be substituted" represents a linear, branched, or cyclic alkylcarbonyl group having from 2 to 4 carbon atoms that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a hydroxy group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy group, a C1-C6 haloalkylcarbonyloxy group, an amino group, a mono-(C1-C6) alkylamino group, a di-(C1-C6) alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The "phenyl group which may be substituted" represents a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a hydroxy group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy group, a C1-C6 haloalkylcarbonyloxy group, an amino group, a mono-(C1-C6) alkylamino group, a di-(C1-C6) alkylamino group, an acetylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The "naphthyl group which may be substituted" represents a naphthyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a hydroxy group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy group, a C1-C6 haloalkylcarbonyloxy group, an amino group, a mono-(C1-C6) alkylamino group, a di-(C1-C6) alkylamino group, an acetylamino group, a phenyl group which may be substituted, a phenylcarbonyl

group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The "heterocyclic group which may be substituted" represents a heterocyclic group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a hydroxy group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a formyl group, a C2-C6 alkylcarbonyl group, a C2-C6 haloalkylcarbonyl group, a C2-C6 alkoxycarbonyl group, a C2-C6 haloalkoxycarbonyl group, a C2-C6 alkylcarbonyloxy group, a C2-C6 haloalkylcarbonyloxy group, an amino group, a mono-(C1-C6) alkylamino group, a di-(C1-C6) alkylamino group, an acetylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

Here, examples of the heterocyclic group include a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a pyrazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, an imidazolyl group, a triazolyl group, a pyrrole group, a pyrazolyl group, and a tetrazolyl group.

The "C1-C3 alkyl group" represents a linear or branched alkyl group having from 1 to 3 carbon atoms such as a methyl group, an ethyl group, a n-propyl group, an isopropyl group, or a cyclopropyl group. The "C1-C4 alkyl group" represents, in addition to the "C1-C3 alkyl group", a linear or branched alkyl group having from 1 to 4 carbon atoms such as a n-butyl group, a 2-butyl group, an isobutyl group, or a t-butyl group. The "C1-C6 alkyl group" represents, in addition to the "C1-C4 alkyl group", a linear or branched alkyl group having from 1 to 6 carbon atoms such as a n-pentyl group, a 2-pentyl group, a 3-pentyl group, a neopentyl group, a n-hexyl group, a 2-hexyl group, a 4-methyl-2-pentyl group, or a 3-methyl-n-pentyl group.

The "C1-C3 haloalkyl group" represents a linear or branched alkyl group having from 1 to 3 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a monofluoromethyl group, a difluoromethyl group, a trifluoromethyl group, a monochloromethyl group, a dichloromethyl group, a trichloromethyl group, a monobromomethyl group, a dibromomethyl group, a tribromomethyl group, a 1-fluoroethyl group, a 2-fluoroethyl group, a 2,2-difluoroethyl group, a 2,2,2-trifluoroethyl group, a 1-chloroethyl group, a 2-chloroethyl group, a 2,2-dichloroethyl group, a 2,2,2-trichloroethyl group, 1-bromoethyl group, 2-bromoethyl group, 2,2-dibromoethyl group, 2,2,2-tribromoethyl group, a 2-iodoethyl group, a pentafluoroethyl group, a 3-fluoro-n-propyl group, a 3-chloro-n-propyl group, a 3-bromo-n-propyl group, a 1,3-difluoro-2-propyl group, a 1,3-dichloro-2-propyl group, a 1,1,1-trifluoro-2-propyl group, a 1-chloro-3-fluoro-2-propyl group, a 1,1,1,3,3,3-hexafluoro-2-propyl group, a 1,1,1,3,3,3-hexafluoro-2-chloro-2-propyl group, a 2,2,3,3,3-pentafluoro-n-propyl group, a heptafluoroisopropyl group, or a heptafluoro-n-propyl group. The "C1-C4 haloalkyl group" represents, in addition to the "C1-C3 haloalkyl group", a linear or branched alkyl group having from 1 to 4 carbon atoms that is substituted with one or more halogen atoms,

which may be the same as or different from each other, such as a 4-fluoro-n-butyl group, a nonafluoro-n-butyl group, or a nonafluoro-2-butyl group.

The “C2-C4 alkenyl group” represents an alkenyl group having from 2 to 4 carbon atoms that has a double bond in the carbon chain, such as a vinyl group, an allyl group, a 2-butenyl group, or a 3-butenyl group. The “C2-C4 haloalkenyl group” represents a linear or branched alkenyl group having from 2 to 4 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, and that has a double bond in the carbon chain, such as a 3,3-difluoro-2-propenyl group, a 3,3-dichloro-2-propenyl group, a 3,3-dibromo-2-propenyl group, a 2,3-dibromo-2-propenyl group, a 4,4-difluoro-3-butenyl group, or a 3,4,4-tribromo-3-butenyl group.

The “C2-C4 alkynyl group” represents a linear or branched alkynyl group having from 2 to 4 carbon atoms that has a triple bond in the carbon chain, such as a propargyl group, a 1-butyne-3-yl group, or a 1-butyne-3-methyl-3-yl group. The “C2-C4 haloalkynyl group” represents a linear or branched alkynyl group having from 2 to 4 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, and that has a triple bond in the carbon chain.

The “C3-C6 cycloalkyl group” represents, for example, a cycloalkyl group having from 3 to 6 carbon atoms that has a cyclic structure, such as a cyclopropyl group, a cyclobutyl group, a cyclopentyl group, a 2-methylcyclopentyl group, a 3-methylcyclopentyl group, or a cyclohexyl group. The “C3-C6 halocycloalkyl group” represents a cycloalkyl group having from 3 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, and that has a cyclic structure, such as a 2,2,3,3-tetrafluorocyclobutyl group, a 2-chlorocyclohexyl group, a 4-chlorocyclohexyl group.

The “C1-C3 alkoxy group” represent a linear or branched alkoxy group having from 1 to 3 carbon atoms, such as a methoxy group, an ethoxy group, a n-propyloxy group, or an isopropyloxy group. The “C1-C6 alkoxy group” represents, in addition to the “C1-C3 alkoxy group”, a linear or branched alkoxy group having from 1 to 6 carbon atoms, such as a n-butyloxy group, an isobutyloxy group, a 2-butyloxy group, a t-butyloxy group, a n-pentyloxy group, a neopentyloxy group, a n-hexyloxy group, an isohexyloxy group, a 3-methylpentyloxy group, a 2-methylpentyloxy group, a 2,3-dimethylbutyloxy group, or a 2,2-dimethylbutyloxy group.

The “C1-C3 haloalkoxy group” represents a linear or branched haloalkoxy group having from 1 to 3 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a trifluoromethoxy group, a 2,2,2-trifluoroethoxy group, a 2-chloroethoxy group, a 1,1,1,3,3,3-hexafluoro-2-propyloxy group, or a 3-fluoro-n-propyloxy group. The “C1-C4 haloalkoxy group” represents, in addition to the “C1-C3 haloalkoxy group”, a linear or branched haloalkoxy group having from 1 to 4 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a 1,1,1,3,3,4,4,4-octafluoro-2-butyloxy group. The “C1-C6 haloalkoxy group” represents, in addition to the “C1-C4 haloalkoxy group”, a linear or branched haloalkoxy group having from 1 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a 1,1,1,2,2,4,4,5,5,5-decafluoro-3-pentyloxy group.

The “C1-C3 alkylthio group” represents a linear, branched, or cyclic alkylthio group having from 1 to 3 carbon atoms, such as a methylthio group, an ethylthio group, a n-propylthio group, an isopropylthio group, or a cyclopropylthio group.

The “C1-C4 alkylthio group” represents, in addition to the “C1-C3 alkylthio group”, a linear, branched, or cyclic alkylthio group having from 1 to 4 carbon atoms, such as a n-butylthio group, an isobutylthio group, a 2-butylthio group, a t-butylthio group, or a cyclopropylmethylthio group. The “C1-C6 alkylthio group” represents, in addition to the “C1-C4 alkylthio group”, a linear, branched, or cyclic alkylthio group having from 1 to 6 carbon atoms, such as a n-pentylthio group, an isopentylthio group, a neopentylthio group, a n-hexylthio group, an isohexylthio group, a 3-methylpentylthio group, a 2-methylpentylthio group, a 2,3-dimethylbutylthio group, or a 2,2-dimethylbutylthio group.

The “C1-C3 haloalkylthio group” represents a linear or branched alkylthio group having from 1 to 3 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a trifluoromethylthio group, a pentafluoroethylthio group, a 2,2,2-trifluoroethylthio group, a heptafluoro-n-propylthio group, or a heptafluoro-isopropylthio group. The “C1-C4 haloalkylthio group” represents, in addition to the “C1-C3 haloalkylthio group”, a linear or branched alkylthio group having from 1 to 4 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a nonafluoro-n-butylthio group, a nonafluoro-2-butylthio group, or a 4,4,4-trifluoro-n-butylthio group. The “C1-C6 haloalkylthio group” represents, in addition to the “C1-C4 haloalkylthio group”, a linear or branched alkylthio group having from 1 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a undecafluoro-n-pentylthio group or a tridecafluoro-n-hexylthio group.

The “C1-C3 alkylsulfinyl group” represents a linear, branched, or cyclic alkylsulfinyl group having from 1 to 3 carbon atoms, such as a methylsulfinyl group, an ethylsulfinyl group, a n-propylsulfinyl group, an isopropylsulfinyl group, or a cyclopropylsulfinyl group. The “C1-C6 alkylsulfinyl group” represents, in addition to the “C1-C3 alkylsulfinyl group”, a linear, branched, or cyclic alkylsulfinyl group having from 1 to 6 carbon atoms, such as a n-butylsulfinyl group, an isobutylsulfinyl group, a 2-butylsulfinyl group, a t-butylsulfinyl group, a cyclopropylmethylsulfinyl group, a n-pentylsulfinyl group, an isopentylsulfinyl group, a neopentylsulfinyl group, a n-hexylsulfinyl group, an isohexylsulfinyl group, a 3-methylpentylsulfinyl group, a 2-methylpentylsulfinyl group, a 2,3-dimethylbutylsulfinyl group, or a 2,2-dimethylbutylsulfinyl group.

The “C1-C3 haloalkylsulfinyl group” represents a linear or branched alkylsulfinyl group having from 1 to 3 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a trifluoromethylsulfinyl group, a pentafluoroethylsulfinyl group, a 2,2,2-trifluoroethylsulfinyl group, a heptafluoro-n-propylsulfinyl group, a heptafluoro-isopropylsulfinyl group. The “C1-C6 haloalkylsulfinyl group” represents, in addition to the “C1-C3 haloalkylsulfinyl group”, a linear or branched alkylsulfinyl group having from 1 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a nonafluoro-n-butylsulfinyl group, a undecafluoro-n-pentylsulfinyl group, or a tridecafluoro-n-hexylsulfinyl group.

The “C1-C3 alkylsulfonyl group” represents a linear or branched alkylsulfonyl group having from 1 to 3 carbon atoms, such as a methylsulfonyl group, an ethylsulfonyl group, a n-propylsulfonyl group, an isopropylsulfonyl group, or a cyclopropylsulfonyl group. The “C1-C6 alkylsulfonyl

11

group” represents, in addition to the “C1-C3 alkylsulfonyl group”, a linear, branched, or cyclic alkylsulfonyl group having from 1 to 6 carbon atoms, such as a n-butylsulfonyl group, an isobutylsulfonyl group, a 2-butylsulfonyl group, a t-butylsulfonyl group, a cyclopropylmethylsulfonyl group, a n-pentylsulfonyl group, an isopentylsulfonyl group, a neopentylsulfonyl group, a n-hexylsulfonyl group, an isohexylsulfonyl group, a 3-methylpentylsulfonyl group, a 2-methylpentylsulfonyl group, a 2,3-dimethylbutylsulfonyl group, or a 2,2-dimethylbutylsulfonyl group.

The “C1-C3 haloalkylsulfonyl group” represents a linear or branched alkylsulfonyl group having from 1 to 3 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a trifluoromethylsulfonyl group, pentafluoroethylsulfonyl group, a 2,2,2-trifluoroethylsulfonyl group, a heptafluoro-n-propylsulfonyl group, or a heptafluoro-isopropylsulfonyl group.

The “C1-C6 haloalkylsulfonyl group” represents, in addition to the “C1-C3 haloalkylsulfonyl group”, a linear or branched alkylsulfonyl group having from 1 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a nonafluoro-n-butylsulfonyl group, a undecafluoro-n-pentylsulfonyl group, or a tridecafluoro-n-hexylsulfonyl group.

The “mono-(C1-C4) alkylamino group” represents a linear, branched, or cyclic monoalkylamino group having from 1 to 4 carbon atoms, such as a methylamino group, an ethylamino group, a n-propylamino group, an isopropylamino group, a n-butylamino group, or a cyclopropylamino group. The “mono-(C1-C6) alkylamino group” represents, in addition to the “mono-(C1-C4) alkylamino group”, a linear, branched, or cyclic monoalkylamino group having from 1 to 6 carbon atoms, such as a n-pentylamino group, a n-hexylamino group, an isohexylamino group, a cyclopentylamino group, or a cyclohexylamino group.

The “di-(C1-C4) alkylamino group” represents a dialkylamino group that has two linear or branched alkyl groups each having from 1 to 4 carbon atoms, which may be the same as or different from each other, such as a dimethylamino group, a diethylamine group, or an N-ethyl-N-methylamino group. The “di-(C1-C6) alkylamino group” represents, in addition to the “di-(C1-C4) alkylamino group”, a dialkylamino group that has two linear or branched alkyl groups each having from 1 to 6 carbon atoms, which may be the same as or different from each other, such as an N-n-butyl-N-methylamino group, an N-n-butyl-N-ethylamino group, or an N-n-hexyl-N-n-pentylamino group.

The “C2-C4 alkylcarbonyl group” represents a linear, branched, or cyclic alkylcarbonyl group having from 2 to 4 carbon atoms, such as an acetyl group, a propionyl group, an isopropylcarbonyl group, or a cyclopropylcarbonyl group. The “C2-C6 alkylcarbonyl group” represents, in addition to the “C2-C4 alkylcarbonyl group”, a linear, branched, or cyclic alkylcarbonyl group having from 2 to 6 carbon atoms, such as a n-butylcarbonyl group, a 2-butylcarbonyl group, a t-butylcarbonyl group, a n-pentylcarbonyl group, an isopentylcarbonyl group, a neopentylcarbonyl group, or a cyclopentylcarbonyl group.

The “C2-C6 haloalkylcarbonyl group” represents a linear or branched alkylcarbonyl group having from 2 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a fluoroacetyl group, a difluoroacetyl group, a trifluoroacetyl group, a chloroacetyl group, a dichloroacetyl group, a trichloroacetyl group, a bromoacetyl group, a tribromoacetyl

12

group, an iodoacetyl group, a triiodoacetyl group, a 3,3,3-trifluoropropionyl group, a 2,2,3,3,3-pentafluoropropionyl group, or a 2,2,3,3,4,4,4-heptafluorobutyronyl group.

The “C2-C4 alkylcarbonyloxy group” represents a linear or branched alkylcarbonyloxy group having from 1 to 4 carbon atoms, such as an acetoxy group or a propionyloxy group. The “C2-C6 alkylcarbonyloxy group” represents, in addition to the “C2-C4 alkylcarbonyloxy group”, a linear, branched, or cyclic alkylcarbonyloxy group having from 2 to 6 carbon atoms, such as a n-butylcarbonyloxy group, a 2-butylcarbonyloxy group, a t-butylcarbonyloxy group, a n-pentylcarbonyloxy group, a neopentylcarbonyloxy group, or a cyclopentylcarbonyloxy group.

The “C2-C6 haloalkylcarbonyloxy group” represent a linear or branched alkylcarbonyloxy group having from 2 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a fluoroacetoxy group, a difluoroacetoxy group, a trifluoroacetoxy group, a chloroacetoxy group, a dichloroacetoxy group, a trichloroacetoxy group, a bromoacetoxy group, an iodoacetoxy group, a 3,3,3-trifluoropropionyloxy group, a 2,2,3,3,3-pentafluoropropionyloxy group, or a 2,2,3,3,4,4,4-heptafluorobutyloxy group.

The “C2-C4 alkoxy carbonyl group” represents a linear or branched alkoxy carbonyl group having from 1 to 4 carbon atoms, such as a methoxycarbonyl group, an ethoxycarbonyl group, or an isopropoxy carbonyl group. The “C2-C6 alkoxy carbonyl group” represents, in addition to the “C2-C4 alkoxy carbonyl group”, a linear, branched, or cyclic alkoxy carbonyl group having from 2 to 6 carbon atoms, such as n-butoxycarbonyl group, a 2-butoxycarbonyl group, a t-butoxycarbonyl group, a n-pentyloxy carbonyl group, a neopentyloxy carbonyl group, or a cyclopentylcarbonyl group.

The “C2-C6 haloalkoxy carbonyl group” represents a linear or branched alkoxy carbonyl group having from 2 to 6 carbon atoms that is substituted with one or more halogen atoms, which may be the same as or different from each other, such as a fluoromethoxycarbonyl group, a difluoromethoxycarbonyl group, a trifluoromethoxycarbonyl group, a chloromethoxycarbonyl group, a dichloromethoxycarbonyl group, a trichloromethoxycarbonyl group, a bromomethoxycarbonyl group, an iodomethoxycarbonyl group, a 3,3,3-trifluoropropoxy carbonyl group, a 2,2,3,3,3-pentafluoropropoxy carbonyl group, a 2,2,3,3,4,4,4-heptafluorobutyloxy carbonyl group, or a 2,2,3,3,4,4,5,5,5-nonafluoropentyloxy carbonyl group.

The “C1-C4 perfluoroalkyl group” represents a linear or branched alkyl group having from 1 to 4 carbon atoms in which all hydrogen atoms are substituted with fluorine atoms, such as a trifluoromethyl group, a pentafluoroethyl group, a heptafluoro-n-propyl group, a heptafluoro-isopropyl group, a nonafluoro-n-butyl group, a nonafluoro-2-butyl group, or a nonafluoro-isobutyl group. The “C2-C6 perfluoroalkyl group” represents a linear or branched alkyl group having from 2 to 6 carbon atoms in which all hydrogen atoms are substituted with fluorine atoms, such as a pentafluoroethyl group, a heptafluoro-n-propyl group, a heptafluoro-isopropyl group, a nonafluoro-n-butyl group, a nonafluoro-2-butyl group, a nonafluoro-isobutyl group, a perfluoro-n-pentyl group, or a perfluoro-n-hexyl group.

The “C1-C6 perfluoroalkylthio group” represents a linear or branched alkylthio group having from 1 to 6 carbon atoms in which all hydrogen atoms are substituted with fluorine atoms, such as a trifluoromethylthio group, a pentafluoroethylthio group, a heptafluoro-n-propylthio group, a heptafluoro-isopropylthio group, a nonafluoro-n-butylthio

13

group, a nonafluoro-2-butylthio group, a nonafluoro-isobutylthio group, a perfluoro-n-pentylthio group, or a perfluoro-n-hexylthio group.

The "C1-C6 perfluoroalkylsulfinyl group" represents a linear or branched alkylsulfinyl group having from 1 to 6 carbon atoms in which all hydrogen atoms are substituted with fluorine atoms, such as a trifluoromethylsulfinyl group, a pentafluoroethylsulfinyl group, a heptafluoro-n-propylsulfinyl group, a heptafluoro-isopropylsulfinyl group, a nonafluoro-n-butylsulfinyl group, a nonafluoro-2-butylsulfinyl group, a nonafluoro-isobutylsulfinyl group, a perfluoro-n-pentylsulfinyl group, or a perfluoro-n-hexylsulfinyl group.

The "C1-C6 perfluoroalkylsulfonyl group" represents a linear or branched alkylsulfonyl group having from 1 to 6 carbon atoms in which all hydrogen atoms are substituted with fluorine atoms, such as a trifluoromethylsulfonyl group, a pentafluoroethylsulfonyl group, a heptafluoro-n-propylsulfonyl group, a heptafluoro-isopropylsulfonyl group, a nonafluoro-n-butylsulfonyl group, a nonafluoro-2-butylsulfonyl group, a nonafluoro-isobutylsulfonyl group, a perfluoro-n-pentylsulfonyl group, or a perfluoro-n-hexylsulfonyl group.

The imide compound represented by Formula (1) according to the invention may include one or plural chiral carbon atoms or chiral centers in the structural formula, and thus two or more optical isomers may exist. The invention encompasses each of the optical isomers and a mixture thereof at any proportions. Further, the imide compound represented by Formula (1) according to the invention may include two or more kinds of geometrical isomers due to a carbon-carbon double bond in the structural formula. The invention encompasses each of the geometrical isomers and a mixture thereof at any proportions.

The preferable substituent or atom as the substituent or the like for the compound represented by Formula (1) or the like according to the invention are as follows.

With regard to A₁, A₂, A₃, and A₄, it is preferable that A₁ is a carbon atom, a nitrogen atom, or an oxidized nitrogen atom and all of A₂, A₃, and A₄ are carbon atoms, and it is more preferable that all of A₁, A₂, A₃, and A₄ are carbon atoms.

R₁ is preferably a hydrogen atom or a C1-C4 alkyl group, and more preferably a hydrogen atom, a methyl group, or an ethyl group.

With regard to G₁ and G₂, it is preferable that each of G₁ and G₂ is an oxygen atom or a sulfur atom, and it is more preferable that both G₁ and G₂ are oxygen atoms.

X is preferably a hydrogen atom or a halogen atom, and more preferably a hydrogen atom or a fluorine atom.

n is preferably 0, 1, or 2 when X is other than a hydrogen atom, and more preferably 0 or 1.

X₁ is preferably a hydrogen atom or a halogen atom, and more preferably a hydrogen atom or a fluorine atom.

X₂ is preferably a hydrogen atom or a fluorine atom, and more preferably a hydrogen atom.

X₃ and X₄ are preferably hydrogen atoms.

Q₁ is preferably a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a C1-C4 alkylcarbonyl

14

group, a C1-C4 alkylcarbonyloxy group, a C1-C4 alkoxycarbonyl group, an acetylamino group, and a phenyl group; or

a pyridyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a C1-C4 alkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, a C1-C4 alkoxycarbonyl group, an acetylamino group, and a phenyl group.

Q₁ is more preferably an unsubstituted phenyl group;

a substituted phenyl group that may have from 1 to 3 substituent(s), which may be the same as or different from one another, selected from the substituent group consisting of a fluorine atom, a chlorine atom, a bromine atom, an iodine atom, a methyl group, a trifluoromethyl group, a methoxy group, a trifluoromethoxy group, a methylthio group, a methylsulfinyl group, a methylsulfonyl group, a trifluoromethylthio group, a trifluoromethylsulfinyl group, a trifluoromethylsulfonyl group, a methylamino group, a dimethylamino group, a cyano group, and a nitro group;

an unsubstituted pyridyl group; or

a substituted pyridyl group that may have 1 or 2 substituent(s), which may be the same as or different from each other, selected from the substituent group consisting of a fluorine atom, a chlorine atom, a bromine atom, an iodine atom, a methyl group, a trifluoromethyl group, a methoxy group, a trifluoromethoxy group, a methylthio group, a methylsulfinyl group, a methylsulfonyl group, a trifluoromethylthio group, a trifluoromethylsulfinyl group, a trifluoromethylsulfonyl group, a methylamino group, a dimethylamino group, a cyano group, and a nitro group.

Q₂ is preferably a substituted phenyl group represented by Formula (2) or an substituted pyridyl group represented by Formula (3).

Among these, it is preferable that each of Y₁ and Y₅ in Formula (2) independently represents a chlorine atom, a bromine atom, an iodine atom, a methyl group, an ethyl group, a n-propyl group, an isopropyl group, a n-butyl group, a 2-butyl group, a trifluoromethyl group, a methylthio group, a methylsulfinyl group, a methylsulfonyl group, a trifluoromethylthio group, a trifluoromethylsulfinyl group, a trifluoromethylsulfonyl group, or a cyano group.

In Formula (3), it is preferable that each of Y₆ and Y₉ independently represents chlorine atom, a bromine atom, an iodine atom, a methyl group, an ethyl group, a n-propyl group, an isopropyl group, a n-butyl group, a 2-butyl group, a trifluoromethyl group, a methylthio group, a methylsulfinyl group, a methylsulfonyl group, a trifluoromethylthio group, a trifluoromethylsulfinyl group, a trifluoromethylsulfonyl group, or a cyano group.

Each of Y₂, Y₄, and Y₇ is preferably a hydrogen atom, a halogen atom, or a methyl group, and more preferably a hydrogen atom.

Y₃ is preferably a pentafluoroethyl group, a heptafluoro-n-propyl group, a heptafluoro-isopropyl group, a nonafluoro-n-butyl group, a nonafluoro-2-butyl group, a nonafluoro-isobutyl group, a trifluoromethylthio group, a pentafluoroethylthio group, a heptafluoro-n-propylthio group, a heptafluoro-isopropylthio group, a nonafluoro-n-butylthio group, a non-

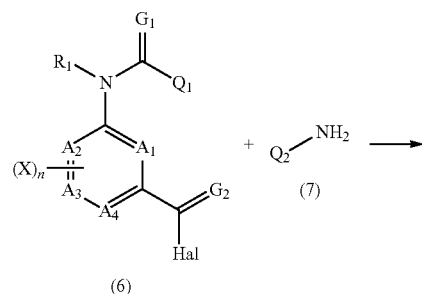
15

afluoro-2-butylthio group, a trifluoromethylsulfinyl group, a pentafluoroethylsulfinyl group, a heptafluoro-n-propylsulfinyl group, a heptafluoro-isopropylsulfinyl group, a nonafluoro-n-butylsulfinyl group, a nonafluoro-2-butylsulfinyl group, a trifluoromethylsulfonyl group, pentafluoroethylsulfonyl group, a heptafluoro-n-propylsulfonyl group, a heptafluoro-isopropylsulfonyl group, a nonafluoro-n-butylsulfonyl group, or a nonafluoro-2-butylsulfonyl group.

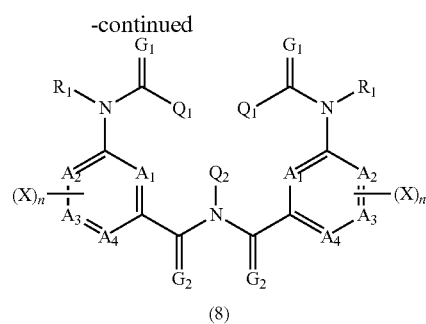
Y_8 is preferably a pentafluoroethyl group, a heptafluoro-n-propyl group, a heptafluoro-isopropyl group, a nonafluoro-n-butyl group, a nonafluoro-2-butyl group, a nonafluoro-isobutyl group, a trifluoromethylthio group, a pentafluoroethylthio group, a heptafluoro-n-propylthio group, a heptafluoro-isopropylthio group, a nonafluoro-n-butylthio group, a nonafluoro-2-butylthio group, a trifluoromethylsulfinyl group, a pentafluoroethylsulfinyl group, a heptafluoro-n-propylsulfinyl group, a heptafluoro-isopropylsulfinyl group, a nonafluoro-n-butylsulfinyl group, a trifluoromethylsulfonyl group, pentafluoroethylsulfonyl group, a heptafluoro-n-propylsulfonyl group, a heptafluoro-isopropylsulfonyl group, a nonafluoro-n-butylsulfonyl group, a nonafluoro-2-butylsulfonyl group, a pentafluoroethoxy group, or a 1,1,1,3,3,3-hexafluoro-isopropoxy group.

The representative method for manufacturing the compound according to the invention are shown below. The compound according to the invention can be manufactured in accordance with the method, but the manufacturing method and the pathway are not limited to the manufacturing method described below.

In the following reaction formula, each A_1 , A_2 , A_3 , and A_4 represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_1 represents a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a C2-C4 alkylcarbonyl group which may be substituted. Each of G_1 and G_2 independently represents an oxygen atom or a sulfur atom; X represents a hydrogen atom, a halogen atom, C1-C3 alkyl group, or a trifluoromethyl group, and when there are two or more X 's, each X may be the same as or different from one another. n represents an integer of from 0 to 4. Q_1 represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted. Q_2 represents a phenyl group or a heterocyclic group, each of which has one or more substituents, in which at least one of the one or more substituents represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group. Hal represents a chlorine atom or a bromine atom.



16



Formula (6)+Formula (7)→Formula (8)

The aromatic imide derivative represented by Formula (8) can be manufactured by reacting the aromatic carboxylic halide derivative represented by Formula (6) with the aromatic amine derivative represented by Formula (7) in an appropriate solvent or in the absence of a solvent.

The solvent may be any of those which does not interfere with the progress of the reaction, and examples thereof include water; aromatic hydrocarbons such as benzene, toluene, or xylene; halogenated hydrocarbons such as dichloromethane, chloroform, or carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, or 1,2-dimethoxy ethane; esters such as ethyl acetate or butyl acetate; alcohols such as methanol or ethanol; ketones such as acetone, methyl isobutyl ketone, or cyclohexanone; amides such as dimethylformamide or dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents may be used singly, or in combination of two or more kinds thereof.

In this process, a suitable base may be used. Examples of the base include organic bases such as triethylamine, tri-n-butyl amine, pyridine, or 4-dimethylamino pyridine; alkali metal hydroxides such as sodium hydroxide or potassium hydroxide; carbonates such as sodium hydrogen carbonate or potassium carbonate; phosphates such as dipotassium monohydrogen phosphate or tri sodium phosphate; alkali metal hydride salts such as sodium hydride; and alkali metal alcoholates such as sodium methoxide or sodium ethoxide. These bases may be appropriately used in an amount in the range from 0.01-fold molar equivalent to 5-fold molar equivalents with respect to the compound represented by Formula (6).

The reaction temperature may be appropriately selected from -20°C . to the reflux temperature of the solvent used. The reaction time may be appropriately selected within the range from several minutes to 96 hours.

The aromatic carboxylic halide derivative represented by Formula (6) can be manufactured easily by a conventional method using a halogenating agent from an aromatic carboxylic acid. Examples of the halogenating agent include thionyl chloride, thionyl bromide, phosphorus oxychloride, oxalyl chloride, and phosphorus trichloride.

Meanwhile, it is possible to manufacture the compound represented by Formula (8) from the aromatic carboxylic acid derivative and the compound represented by Formula (7) without using a halogenating agent. Examples of the method include a method using a condensing agent, in which N,N'-dicyclohexylcarbodiimide is appropriately used with an additive such as 1-hydroxybenzotriazole, in accordance with a method described, for example, in Chem. Ber. p. 788 (1970). Other condensing agents that can be used in this method may be 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide, 1,1'-carbonylbis-1H-imidazole, or the like.

17

Examples of the method of manufacturing the compound represented by Formula (8) further include a mixed anhydride method using a chloroformic acid ester. For example, it is possible to manufacture the compound represented by Formula (8) from the aromatic carboxylic acid derivative and the compound represented by Formula (7) in accordance with a method described in J. Am. Chem. Soc., p. 5012 (1967). Examples of the chloroformic acid ester used in this method include isobutyl chloroformate, isopropyl chloroformate and the like. Other than the chloroformic acid ester, diethylacetyl chloride, trimethylacetyl chloride, or the like may also be used.

With regard to both the method using a condensing agent and the mixed anhydride method, the solvent, the reaction temperature, and the reaction time are not limited to those described in the literature above. An inert solvent that does not significantly inhibit the progress of the reaction may be appropriately used, and the reaction temperature and the reaction time may also be selected appropriately according to the progress of the reaction.

In the manufacture methods described above, a product of interest may be isolated from the reaction system after the reaction is completed according to a conventional method, and purification may be carried out by a operation such as recrystallization, column chromatography, or distillation, if necessary.

18

Hereinbelow, examples of the representative compounds of the imide compound represented by Formula (1) as an active ingredient for the insecticide according to the invention are shown in Tables 1 to 6, but the invention is not limited thereto.

In the tables, "n-" represents normal, "Me" represents a methyl group, "Et" represents an ethyl group, "H" represents a hydrogen atom, "O" represents an oxygen atom, "S" represents a sulfur atom, "C" represents a carbon atom, "N" represents a nitrogen atom, "F" represents a fluorine atom, "Cl" represents a chlorine atom, "Br" represents a bromine atom, "I" represents an iodine atom, and "CF₃" represents a trifluoromethyl group.

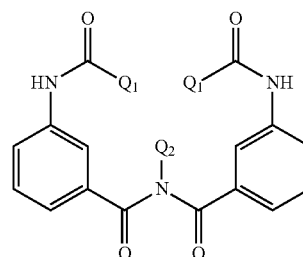


TABLE 1

Compound No.	Q ₁	Q ₂
1	phenyl	2,6-dimethyl-4-(pentafluoroethyl)phenyl
2	phenyl	2,6-dichloro-4-(pentafluoroethyl)phenyl
3	2-fluorophenyl	2,6-dichloro-4-(pentafluoroethyl)phenyl
4	phenyl	2,6-dibromo-4-(pentafluoroethyl)phenyl
5	2-fluorophenyl	2,6-dibromo-4-(pentafluoroethyl)phenyl
6	phenyl	2,6-dichloro-4-(heptafluoroisopropyl)phenyl
7	phenyl	2,6-dibromo-4-(heptafluoroisopropyl)phenyl
8	2-fluorophenyl	2,6-dibromo-4-(heptafluoroisopropyl)phenyl
9	phenyl	2,6-dimethyl-4-(heptafluoro-n-propyl)phenyl
10	phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
11	2-methylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
12	3-methylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
13	4-methylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
14	2-ethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
15	3-ethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
16	4-ethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
17	2-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
18	3-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
19	4-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
20	2-chlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
21	3-chlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
22	4-chlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
23	2-bromophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
24	3-bromophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
25	4-bromophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
26	2-iodophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
27	3-iodophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
28	4-iodophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
29	3-cyanophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
30	4-cyanophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
31	2-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
32	3-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
33	4-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
34	2-aminophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
35	3-aminophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
36	4-aminophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
37	2-trifluoromethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
38	3-trifluoromethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
39	4-trifluoromethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
40	2-hydroxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
41	2-methoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
42	3-methoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
43	4-methoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl

TABLE 1-continued

Compound No.	Q ₁	Q ₂
44	2-phenoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
45	4-(1,1-dimethylethyl)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
46	3-(dimethylamino)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
47	4-(dimethylamino)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
48	4-trifluoromethoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
49	2-(acetylamino)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
50	3-(acetylamino)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
51	4-(acetylamino)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
52	2-acetoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
53	2-(methoxycarbonyl)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
54	4-(methoxycarbonyl)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
55	2-(4-trifluoromethylphenyl)phenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
56	2,3-dimethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
57	2,4-dimethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
58	2,6-dimethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
59	2,3-difluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
60	2,4-difluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
61	2,5-difluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
62	2,6-difluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
63	3,4-difluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
64	3,5-difluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
65	2,3-dichlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
66	2,4-dichlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
67	2,5-dichlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
68	2,6-dichlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
69	3,4-dichlorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
70	2,4-dinitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
71	3,4-dinitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
72	2,6-dimethoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
73	3,5-dimethoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
74	3-methyl-4-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
75	5-amino-2-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
76	3-fluoro-2-methylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
77	2-fluoro-5-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
78	4-fluoro-3-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
79	5-fluoro-2-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
80	2-fluoro-6-iodophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
81	2-fluoro-5-trifluoromethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
82	2-chloro-4-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
83	2-chloro-4-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
84	2-chloro-6-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
85	3-chloro-4-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
86	4-chloro-2-fluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
87	4-chloro-2-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
88	3-methoxy-4-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
89	2-methoxy-4-nitrophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
90	2,3,4-trifluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
91	2,4,6-trimethylphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
92	2,3,6-trifluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
93	2,4,5-trimethoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
94	3,4,5-trimethoxyphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
95	2,3,4,5,6-pentafluorophenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
96	2-biphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
97	3-biphenyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
98	1-naphthyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
99	2-naphthyl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
100	pyridin-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
101	pyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
102	pyridin-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
103	2-methylpyridin-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
104	3-methylpyridin-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
105	2-fluoropyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
106	2-chloropyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
107	2-chloropyridin-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
108	2-chloropyridin-6-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
109	2-chloropyridin-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
110	5-chloropyridin-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
111	4-trifluoromethylpyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
112	3-hydroxypyridin-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
113	2-phenoxy-pyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
114	2-methylthiopyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
115	2,6-dimethoxy-pyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
116	2,3-dichloropyridin-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
117	2,5-dichloropyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
118	2,6-dichloropyridin-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
119	3,5-dichloropyridin-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl

TABLE 1-continued

Compound No.	Q ₁	Q ₂
120	(pyridine-N-oxide)-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
121	N-methylpyrrol-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
122	pyrazin-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
123	2-methylpyrazin-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
124	4-trifluoromethylpyrimidin-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
125	furan-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
126	furan-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
127	2-tetrahydrofuran-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
128	3-tetrahydrofuran-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
129	benzofuran-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
130	tetrahydropyran-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
131	2-methyl-5,6-dihydro-4H-pyran-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
132	thiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
133	thiophen-3-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
134	3-methylthiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
135	2-nitrothiophen-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
136	2-methylthiophen-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
137	3-chlorothiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
138	2-chlorothiophen-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
139	3-bromothiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
140	2-bromothiophen-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
141	3-iodothiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
142	3-phenylthiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
143	2,4-dimethylthiophen-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
144	benzothiophen-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
145	4-nitro-1H-pyrrol-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
146	3-ethyl-3H-pyrazol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
147	1-methyl-3-nitro-1H-pyrazol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
148	3-chloro-1-methyl-1H-pyrazol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
149	3-bromo-1-methyl-1H-pyrazol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
150	1-methyl-3-trifluoromethyl-1H-pyrazol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
151	1-methyl-5-trifluoromethyl-1H-pyrazol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
152	isooxazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
153	4-trifluoromethylthiazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
154	2,4-dimethylthiazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
155	2-ethyl-4-methyl-thiazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
156	2-chloro-4-methyl-thiazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
157	3-methyl-isothiazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
158	3,4-dichloro-isothiazol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
159	3-chlorobenzothiazol-2-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
160	2,2-difluorobenz[1,3]dioxol-5-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
161	2,2-difluorobenz[1,3]dioxol-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
162	2-phenylquinolin-4-yl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
163	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-methylphenyl
164	phenyl	2-ethyl-4-(heptafluoroisopropyl)-6-methylphenyl
165	2-fluorophenyl	2-ethyl-4-(heptafluoroisopropyl)-6-methylphenyl
166	phenyl	4-(heptafluoroisopropyl)-2-iodo-6-methylphenyl
167	phenyl	4-(heptafluoroisopropyl)-2-hydroxy-6-methylphenyl
168	phenyl	2-chloro-6-ethyl-4-(heptafluoroisopropyl)phenyl
169	phenyl	2-bromo-6-ethyl-4-(heptafluoroisopropyl)phenyl
170	2-fluorophenyl	2-bromo-6-ethyl-4-(heptafluoroisopropyl)phenyl
171	phenyl	2-ethyl-4-(heptafluoroisopropyl)-6-iodophenyl
172	2-fluorophenyl	2-ethyl-4-(heptafluoroisopropyl)-6-iodophenyl
173	4-nitrophenyl	2-ethyl-4-(heptafluoroisopropyl)-6-iodophenyl
174	4-cyanophenyl	2-ethyl-4-(heptafluoroisopropyl)-6-iodophenyl
175	4-nitrophenyl	4-(heptafluoroisopropyl)-2-methyl-6-n-propylphenyl
176	phenyl	4-(heptafluoroisopropyl)-2-isopropyl-6-methylphenyl
177	2-fluorophenyl	4-(heptafluoroisopropyl)-2-isopropyl-6-methylphenyl
178	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-n-propylphenyl
179	2-fluorophenyl	2-bromo-4-(heptafluoroisopropyl)-6-n-propylphenyl
180	4-nitrophenyl	2-bromo-4-(heptafluoroisopropyl)-6-n-propylphenyl

TABLE 1-continued

Compound No.	Q ₁	Q ₂
181	4-cyanophenyl	2-bromo-4-(heptafluoroisopropyl)-6-n-propylphenyl
182	phenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-propylphenyl
183	2-fluorophenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-propylphenyl
184	4-nitrophenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-propylphenyl
185	4-cyanophenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-propylphenyl
186	4-trifluoromethylphenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-propylphenyl
187	phenyl	2-chloro-4-(heptafluoroisopropyl)-6-n-butylphenyl
188	2-fluorophenyl	2-chloro-4-(heptafluoroisopropyl)-6-n-butylphenyl
189	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-n-butylphenyl
190	2-fluorophenyl	2-bromo-4-(heptafluoroisopropyl)-6-n-butylphenyl
191	phenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-butylphenyl
192	2-fluorophenyl	4-(heptafluoroisopropyl)-2-iodo-6-n-butylphenyl
193	phenyl	2-(2-butyl)-6-chloro-4-(heptafluoroisopropyl)phenyl
194	phenyl	2-bromo-6-(2-butyl)-4-(heptafluoroisopropyl)phenyl
195	2-fluorophenyl	2-bromo-6-(2-butyl)-4-(heptafluoroisopropyl)phenyl
196	phenyl	2-(2-butyl)-4-(heptafluoroisopropyl)-6-iodophenyl
197	2-fluorophenyl	2-bromo-6-cyano-4-(heptafluoroisopropyl)phenyl
198	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-methylthiophenyl
199	2-fluorophenyl	2-bromo-4-(heptafluoroisopropyl)-6-methylthiophenyl
200	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
201	2-fluorophenyl	2-chloro-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
202	2-chloropyridin-3-yl	2-chloro-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
203	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
204	2-fluorophenyl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
205	4-fluorophenyl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
206	4-nitrophenyl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
207	4-cyanophenyl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
208	2-chloropyridin-3-yl	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
209	phenyl	4-(heptafluoroisopropyl)-2-methylthiomethyl-6-trifluoromethylphenyl
210	phenyl	2-bromo-4-(heptafluoroisopropyl)-6-(trifluoromethylthio)phenyl
211	phenyl	2,6-dimethyl-4-(nonafluoro-n-butyl)phenyl
212	phenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
213	2-trifluoromethylphenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
214	4-trifluoromethylphenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
215	4-trifluoromethoxyphenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
216	3-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
217	4-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
218	2-chlorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
219	4-chlorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
220	2-bromophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
221	2-iodophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
222	3-cyanophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
223	4-cyanophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
224	2-nitrophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
225	3-nitrophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
226	4-nitrophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
227	2-chloro-4-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
228	2-chloro-6-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
229	4-chloro-2-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
230	2,3-difluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
231	2,3,6-trifluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
232	2,5-difluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
233	2,6-difluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
234	2,4-dichlorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
235	2,6-dichlorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
236	3,4-dichlorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
237	2-methylthiopyridin-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
238	2-chloro-4-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
239	2-chloro-6-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
240	4-chloro-2-fluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
241	4-chloro-2-nitrophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
242	2,3,6-trifluorophenyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
243	pyridin-2-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
244	pyridin-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
245	2-fluoropyridin-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
246	2-chloropyridin-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
247	2-chloropyridin-5-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
248	2-methylthiopyridin-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
249	pyrazin-2-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
250	furan-2-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
251	furan-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
252	2-tetrahydrofuran-2-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
253	benzofuran-2-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
254	thiophen-2-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
255	2,6-difluorophenyl	2,6-dichloro-4-(trifluoromethylthio)phenyl

TABLE 1-continued

Compound No.	Q ₁	Q ₂
256	phenyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
257	2,6-difluorophenyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
258	phenyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
259	2-fluorophenyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
260	phenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
261	2-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
262	phenyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
263	phenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
264	2-methylphenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
265	4-methylphenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
266	2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
267	3-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
268	4-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
269	2-chlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
270	4-chlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
271	2-bromophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
272	2-iodophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
273	3-cyanophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
274	4-cyanophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
275	2-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
276	3-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
277	4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
278	2-trifluoromethylphenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
279	4-trifluoromethylphenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
280	4-trifluoromethoxyphenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
281	2,3-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
282	2,4-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
283	2,5-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
284	2,6-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
285	3-aminophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
286	3-(acetylamino)phenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
287	3-(methylsulfonylamino)phenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
288	2,4-dinitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
289	3,4-dinitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
290	3-methyl-4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
291	5-amino-2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
292	2-fluoro-5-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
293	2-fluoro-5-(methylsulfonylamino)phenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
294	2-methoxy-4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
295	3-methoxy-4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
296	5-(acetylamino)-2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
297	2,4-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
298	2,6-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
299	3,4-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
300	2-chloro-4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
301	2-chloro-4-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
302	2-chloro-6-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
303	4-chloro-2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
304	4-chloro-2-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
305	2,3,6-trifluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
306	pyridin-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
307	pyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
308	2-fluoropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
309	2-chloropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
310	2-chloropyridin-5-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
311	2-methylthiopyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
312	2,6-dichloropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
313	2,6-dichloropyridin-4-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
314	2-chloro-6-methylpyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
315	pyridine-N-oxide-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
316	pyrazin-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
317	1-methyl-3-nitro-1H-pyrazol-4-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
318	1-methyl-3-trifluoromethyl-1H-pyrazol-4-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
319	1-methyl-5-trifluoromethyl-1H-pyrazol-4-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
320	2-tetrahydrofuran-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
321	2-phenylthiazol-4-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
322	furan-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
323	furan-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
324	2-tetrahydrofuran-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
325	benzofuran-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 1-continued

Compound No.	Q ₁	Q ₂
326	thiophen-2-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
327	phenyl	2,6-diiodo-4-(heptafluoro-n-propylthio)phenyl
328	2-fluorophenyl	2,6-diiodo-4-(heptafluoro-n-propylthio)phenyl
329	phenyl	2,6-dichloro-4-(heptafluoroisopropylthio)phenyl
330	2-fluorophenyl	2,6-dichloro-4-(heptafluoroisopropylthio)phenyl
331	2-chloropyridin-3-yl	2,6-dichloro-4-(heptafluoroisopropylthio)phenyl
332	phenyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
333	phenyl	2,6-dibromo-4-(nonafluoro-n-butylthio)phenyl
334	2-fluorophenyl	2,6-dibromo-4-(nonafluoro-n-butylthio)phenyl
335	phenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
336	2-methylphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
337	4-methylphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
338	2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
339	3-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
340	4-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
341	2-chlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
342	4-chlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
343	2-bromophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
344	2-iodophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
345	3-cyanophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
346	4-cyanophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
347	2-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
348	3-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
349	4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
350	2-trifluoromethylphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
351	4-trifluoromethylphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
352	4-trifluoromethoxyphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
353	2,3-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
354	2,4-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
355	2,5-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
356	2,6-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
357	2,4-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
358	2,6-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
359	3,4-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
360	2-chloro-4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
361	2-chloro-4-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
362	2-chloro-6-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
363	4-chloro-2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
364	4-chloro-2-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
365	2,3,6-trifluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
366	pyridin-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
367	pyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
368	2-fluoropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
369	2-chloropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
370	2-chloropyridin-5-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
371	2-methylthiopyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
372	pyrazin-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
373	furan-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
374	thiophen-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
375	2,6-difluorophenyl	2,6-dichloro-4-(trifluoromethylsulfonyl)phenyl
376	phenyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
377	2,6-difluorophenyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
378	2-fluorophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
379	phenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
380	phenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
381	2-methylphenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
382	4-methylphenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
383	2-fluorophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
384	3-fluorophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
385	4-fluorophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
386	2-chlorophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
387	4-chlorophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
388	2-bromophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
389	2-iodophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
390	3-cyanophenyl	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
391	4-cyanophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
392	2-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
393	3-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
394	4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
395	2-trifluoromethylphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
396	4-trifluoromethylphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
397	4-trifluoromethoxyphenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
398	2,3-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
399	2,4-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
400	2,5-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
401	2,6-difluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
402	2,4-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl

TABLE 1-continued

Compound No.	Q ₁	Q ₂
403	2,6-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
404	3,4-dichlorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
405	2-chloro-4-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
406	2-chloro-4-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
407	2-chloro-6-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
408	4-chloro-2-fluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
409	4-chloro-2-nitrophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
410	2,3,6-trifluorophenyl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
411	pyridin-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
412	pyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
413	2-fluoropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
414	2-chloropyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
415	2-chloropyridin-5-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
416	2-methylthiopyridin-3-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
417	pyrazin-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
418	furan-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
419	thiophen-2-yl	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
420	phenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
421	2-methylphenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
422	4-methylphenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
423	2-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
424	3-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
425	4-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
426	2-chlorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
427	4-chlorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
428	2-bromophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
429	2-iodophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
430	3-cyanophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
431	4-cyanophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
432	2-nitrophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
433	3-nitrophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
434	4-nitrophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
435	2-trifluoromethylphenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
436	4-trifluoromethylphenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
437	4-trifluoromethoxyphenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
438	2,3-difluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
439	2,4-difluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
440	2,5-difluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
441	2,6-difluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
442	2,4-dichlorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
443	2,6-dichlorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
444	3,4-dichlorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
445	2-chloro-4-nitrophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
446	2-chloro-4-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
447	2-chloro-6-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
448	4-chloro-2-fluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
449	4-chloro-2-nitrophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
450	2,3,6-trifluorophenyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
451	pyridin-2-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
452	pyridin-3-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
453	2-fluoropyridin-3-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
454	2-chloropyridin-3-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
455	2-chloropyridin-5-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
456	2-methylthiopyridin-3-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
457	pyrazin-2-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
458	furan-2-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
459	thiophen-2-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
460	2,6-difluorophenyl	2,6-dichloro-4-(trifluoromethylsulfonyl)phenyl
461	phenyl	2-bromo-6-(heptafluoroisopropoxy)-4-methylpyridin-3-yl
462	2-fluorophenyl	2-bromo-6-(heptafluoroisopropoxy)-4-methylpyridin-3-yl
463	phenyl	2,4-dimethyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
464	phenyl	2-chloro-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
465	phenyl	2-bromo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
466	2-fluorophenyl	2-bromo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
467	phenyl	2-iodo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl

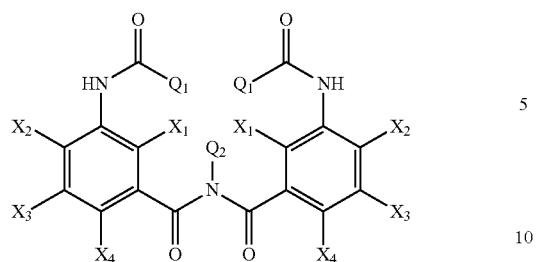


TABLE 2

Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
601	phenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
602	2-methylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
603	3-methylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
604	4-methylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
605	2-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
606	3-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
607	4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
608	3-cyanophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
609	4-cyanophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
610	2-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
611	3-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
612	4-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
613	2-chlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
614	4-chlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
615	2-bromophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
616	2-iodophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
617	2-trifluoromethylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
618	4-trifluoromethylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
619	4-trifluoromethoxyphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
620	4-(dimethylamino)phenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
621	2,3-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
622	2,4-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
623	2,5-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
624	2,6-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
625	2,4-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
626	2,6-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
627	3,4-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
628	2-fluoro-4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
629	4-fluoro-2-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
630	2-chloro-4-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl

TABLE 2-continued

Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
631	4-chloro-2-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
632	2-chloro-6-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
633	2-chloro-4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
634	4-chloro-2-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
635	2,3,6-trifluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
636	pyridin-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
637	pyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
638	2-fluoropyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
639	2-chloropyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
640	2-chloropyridin-5-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
641	2-methylthiopyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
642	pyrazin-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
643	furan-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
644	furan-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
645	2-tetrahydrofuran-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
646	benzofuran-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
647	thiophen-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
648	2-methyl-5,6-dihydro-4H-pyran-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
649	phenyl	H	Cl	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
650	phenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
651	4-nitrophenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
652	4-cyanophenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
653	2-fluorophenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
654	4-fluorophenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
655	4-trifluoromethylphenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
656	2,4-difluorophenyl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
657	2-chloropyridin-3-yl	H	F	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
658	phenyl	H	H	CF ₃	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
659	phenyl	H	H	H	F	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
660	phenyl	H	H	H	Cl	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
661	phenyl	H	H	H	Br	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
662	phenyl	H	H	H	I	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
663	phenyl	F	H	H	F	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
664	phenyl	H	Br	H	Br	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
665	phenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
666	2-methylphenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
667	4-methylphenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
668	2-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

TABLE 2-continued

Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
669	3-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
670	4-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
671	2-chlorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
672	4-chlorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
673	2-bromophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
674	2-iodophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
675	3-cyanophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
676	4-cyanophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
677	2-nitrophenyl	F	F	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
678	3-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
679	4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
680	2-trifluoromethylphenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
681	4-trifluoromethylphenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
682	4-trifluoromethoxyphenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
683	2,3-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
684	2,4-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
685	2,5-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
686	2,6-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
687	2,4-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
688	2,6-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
689	3,4-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
690	2-chloro-4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
691	2-chloro-4-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
692	2-chloro-6-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
693	4-chloro-2-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
694	4-chloro-2-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
695	2,3,6-trifluorophenyl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
696	pyridin-2-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
697	pyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
698	2-fluoropyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
699	2-chloropyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
700	2-chloropyridin-5-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
701	2-methylthiopyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
702	pyrazin-2-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
703	furan-2-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
704	furan-3-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
705	2-tetrahydrofuran-2-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
706	benzofuran-2-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

TABLE 2-continued

Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
707	thiophen-2-yl	F	H	H	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
708	phenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
709	2-methylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
710	4-methylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
711	2-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
712	3-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
713	4-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
714	2-chlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
715	4-chlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
716	2-bromophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
717	2-iodophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
718	3-cyanophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
719	4-cyanophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
720	2-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
721	3-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
722	4-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
723	2-trifluoromethylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
724	4-trifluoromethylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
725	4-trifluoromethoxyphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
726	2,3-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
727	2,4-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
728	2,5-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
729	2,6-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
730	2,4-dichlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
731	2,6-dichlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
732	3,4-dichlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
733	2-chloro-4-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
734	2-chloro-4-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
735	2-chloro-6-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
736	4-chloro-2-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
737	4-chloro-2-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
738	2,3,6-trifluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
739	pyridin-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
740	pyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
741	2-fluoropyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
742	2-chloropyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
743	2-chloropyridin-5-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
744	2-methylthiopyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 2-continued

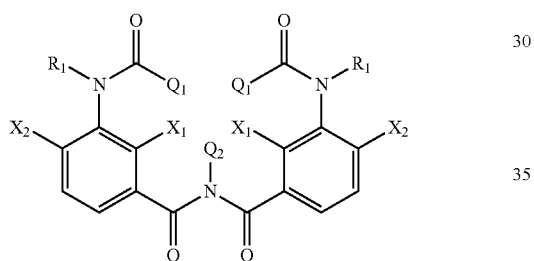
Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
745	pyrazin-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
746	furan-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
747	furan-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
748	2-tetrahydrofuran-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
749	benzofuran-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
750	thiophen-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
751	phenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
752	2-methylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
753	4-methylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
754	2-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
755	3-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
756	4-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
757	2-chlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
758	4-chlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
759	2-bromophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
760	2-iodophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
761	3-cyanophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
762	4-cyanophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
763	2-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
764	3-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
765	4-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
766	2-trifluoromethylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
767	4-trifluoromethylphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
768	4-trifluoromethoxyphenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
769	2,3-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
770	2,4-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
771	2,5-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
772	2,6-difluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
773	2,4-dichlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
774	2,6-dichlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
775	3,4-dichlorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
776	2-chloro-4-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
777	2-chloro-4-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
778	2-chloro-6-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
779	4-chloro-2-fluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
780	4-chloro-2-nitrophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
781	2,3,6-trifluorophenyl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
782	pyridin-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl

TABLE 2-continued

Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
783	pyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
784	2-fluoropyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
785	2-chloropyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
786	2-chloropyridin-5-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
787	2-methylthiopyridin-3-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
788	pyrazin-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
789	furan-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
790	thiophen-2-yl	F	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
791	phenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
792	2-methylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
793	4-methylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
794	2-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
795	3-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
796	4-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
797	2-chlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
798	4-chlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
799	2-bromophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
800	2-iodophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
801	3-cyanophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
802	4-cyanophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
803	2-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
804	3-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
805	4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
806	2-trifluoromethylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
807	4-trifluoromethylphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
808	4-trifluoromethoxyphenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
809	2,3-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
810	2,4-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
811	2,5-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
812	2,6-difluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
813	2,4-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
814	2,6-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
815	3,4-dichlorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
816	2-chloro-4-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
817	2-chloro-4-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
818	2-chloro-6-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
819	4-chloro-2-fluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
820	4-chloro-2-nitrophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl

TABLE 2-continued

Compound No.	Q ₁	X ₁	X ₂	X ₃	X ₄	Q ₂
821	2,3,6-trifluorophenyl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
822	pyridin-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
823	pyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
824	2-fluoropyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
825	2-chloropyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
826	2-chloropyridin-5-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
827	2-methylthiopyridin-3-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
828	pyrazin-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
829	furan-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
830	thiophen-2-yl	F	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
831	phenyl	Cl	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
832	2-fluorophenyl	Cl	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
833	2-chloropyridin-3-yl	Cl	H	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl



35

TABLE 3

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
834	phenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
835	2-methylphenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
836	4-methylphenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
837	2-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
838	3-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
839	4-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
840	2-chlorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
841	4-chlorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
842	2-bromophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
843	2-iodophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
844	3-cyanophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
845	4-cyanophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
846	2-nitrophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
847	3-nitrophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
848	4-nitrophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
849	2-trifluoromethylphenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
850	4-trifluoromethylphenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
851	4-trifluoromethoxyphenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
852	2,3-difluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
853	2,4-difluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
854	2,5-difluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
855	2,6-difluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
856	2,4-dichlorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
857	2,6-dichlorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
858	3,4-dichlorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
859	2-chloro-4-nitrophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
860	2-chloro-4-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
861	2-chloro-6-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
862	4-chloro-2-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
863	4-chloro-2-nitrophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
864	2,3,6-trifluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
865	3-(acetylamino)phenyl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
866	pyridin-2-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
867	pyridin-3-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
868	2-fluoropyridin-3-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
869	2-chloropyridin-3-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
870	2-chloropyridin-5-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
871	2-trifluoromethylpyridin-3-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
872	2-methylthiopyridin-3-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
873	pyrazin-2-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
874	furan-2-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
875	furan-3-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
876	2-tetrahydrofuran-2-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
877	benzofuran-2-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
878	thiophen-2-yl	Me	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
879	phenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
880	2-methylphenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
881	4-methylphenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
882	2-fluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
883	3-fluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
884	4-fluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
885	2-chorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
886	4-chorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
887	2-bromophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
888	2-iodophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
889	3-cyanophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
890	4-cyanophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
891	2-nitrophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
892	3-nitrophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
893	4-nitrophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
894	2-trifluoromethylphenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
895	4-trifluoromethylphenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
896	4-trifluoromethoxyphenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
897	2,3-difluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
898	2,4-difluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
899	2,5-difluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
900	2,6-difluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
901	2,4-dichlorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
902	2,6-dichlorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
903	3,4-dichlorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
904	2-chloro-4-nitrophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
905	2-chloro-4-fluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
906	2-chloro-6-fluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
907	4-chloro-2-fluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
908	4-chloro-2-nitrophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
909	2,3,6-trifluorophenyl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
910	pyridin-2-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
911	pyridin-3-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
912	2-fluoropyridin-3-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
913	2-chloropyridin-3-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
914	2-chloropyridin-5-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
915	2-methylthiopyridin-3-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
916	pyrazin-2-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
917	furan-2-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
918	thiophen-2-yl	Me	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
919	phenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
920	2-methylphenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
921	4-methylphenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
922	2-fluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
923	3-fluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
924	4-fluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
925	2-chorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
926	4-chorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
927	2-bromophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
928	2-iodophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
929	3-cyanophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
930	4-cyanophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
931	2-nitrophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
932	3-nitrophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
933	4-nitrophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
934	2-trifluoromethylphenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
935	4-trifluoromethylphenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
936	4-trifluoromethoxyphenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
937	2,3-difluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
938	2,4-difluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
939	2,5-difluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
940	2,6-difluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
941	2,4-dichlorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
942	2,6-dichlorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
943	3,4-dichlorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
944	2-chloro-4-nitrophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
945	2-chloro-4-fluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
946	2-chloro-6-fluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
947	4-chloro-2-fluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
948	4-chloro-2-nitrophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
949	2,3,6-trifluorophenyl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
950	pyridin-2-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
951	pyridin-3-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
952	2-fluoropyridin-3-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
953	2-chloropyridin-3-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
954	2-chloropyridin-5-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
955	2-methylthiopyridin-3-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
956	pyrazin-2-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
957	furan-2-yl	Me	H	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
958	2-fluorophenyl	Me	H	H	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
959	phenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
960	2-methylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
961	4-methylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
962	2-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
963	3-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
964	4-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
965	2-chorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
966	4-chorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
967	2-bromophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
968	2-iodophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
969	3-cyanophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
970	4-cyanophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
971	2-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
972	3-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
973	4-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
974	2-trifluoromethylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
975	4-trifluoromethylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
976	4-trifluoromethoxyphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
977	2,3-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
978	2,4-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
979	2,5-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
980	2,6-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
981	2,4-dichlorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
982	2,6-dichlorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
983	3,4-dichlorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
984	2-chloro-4-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
985	2-chloro-4-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
986	2-chloro-6-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
987	4-chloro-2-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
988	4-chloro-2-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
989	2,3,6-trifluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
990	pyridin-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
991	pyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
992	2-fluoropyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
993	2-chloropyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
994	2-chloropyridin-5-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
995	2-methylthiopyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
996	pyrazin-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
997	furan-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
998	thiophen-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
999	phenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1000	2-methylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1001	4-methylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1002	2-fluorophenyl	Me	H	It	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1003	3-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1004	4-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1005	2-chorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1006	4-chorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1007	2-bromophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1008	2-iodophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1009	3-cyanophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1010	4-cyanophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1011	2-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1012	3-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1013	4-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1014	2-trifluoromethylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1015	4-trifluoromethylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1016	4-trifluoromethoxyphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1017	2,3-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1018	2,4-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1019	2,5-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1020	2,6-difluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1021	2,4-dichlorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1022	2,6-dichlorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1023	3,4-dichlorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1024	2-chloro-4-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1025	2-chloro-4-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1026	2-chloro-6-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1027	4-chloro-2-fluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1028	4-chloro-2-nitrophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1029	2,3,6-trifluorophenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1130	pyridin-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1131	pyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1132	2-fluoropyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1133	2-chloropyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1034	2-chloropyridin-5-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1035	2-methylthiopyridin-3-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1036	pyrazin-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1037	furan-2-yl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1038	2-trifluoromethylphenyl	Me	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1039	4-trifluoromethylphenyl	Et	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1040	4-trifluoromethoxyphenyl	Et	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1041	phenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1042	2-methylphenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1043	3-methylphenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1044	4-methylphenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1045	2-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1046	3-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1047	4-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1048	2-cyanophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1049	3-cyanophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1050	4-cyanophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1051	2-fluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1052	3-fluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1053	4-fluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1054	2-chlorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1055	4-chlorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1056	2-bromophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1057	2-iodophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1058	3-trifluoromethylphenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1059	2-methylthiopyridin-3-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1060	4-trifluoromethoxyphenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1061	2,3-difluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1062	2,4-difluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1063	2,5-difluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1064	2,6-difluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1065	2,4-dichlorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1066	2,6-dichlorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1067	3,4-dichlorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1068	2-fluoro-4-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1069	4-fluoro-2-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1070	2-chloro-4-fluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1071	4-chloro-2-fluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1072	2-chloro-6-fluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1073	2-chloro-4-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1074	4-chloro-2-nitrophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1075	2,3,6-trifluorophenyl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1076	pyridin-2-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1077	pyridin-3-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1078	2-chloropyridin-3-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1079	2-fluoropyridin-3-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1080	2-chloropyridin-5-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1081	2-methylthiopyridin-3-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1082	pyrazin-2-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1083	furan-2-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1084	furan-3-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1085	2-tetrahydrofuran-2-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1086	benzofuran-2-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1087	thiophen-2-yl	Me	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1088	phenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1089	2-methylphenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1090	3-methylphenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1091	4-methylphenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1092	2-nitrophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1093	3-nitrophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1094	4-nitrophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1095	2-cyanophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1096	3-cyanophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1097	4-cyanophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1098	2-fluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1099	3-fluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1100	4-fluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1101	2-chlorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1102	4-chlorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1103	2-bromophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1104	2-iodophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1105	2-trifluoromethylphenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1106	4-trifluoromethylphenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1107	4-trifluoromethoxyphenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1108	2,3-difluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1109	2,4-difluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1110	2,5-difluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1111	2,6-difluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1112	2,4-dichlorophenyl	Me	F	FT	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1113	2,6-dichlorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1114	3,4-dichlorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1115	2-fluoro-4-nitrophenyl	Me	F	FT	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1116	4-fluoro-2-nitrophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1117	2-chloro-4-fluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1118	4-chloro-2-fluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1119	2-chloro-6-fluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1120	2-chloro-4-nitrophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1121	4-chloro-2-nitrophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1122	2,3,6-trifluorophenyl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1123	pyridin-2-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1124	pyridin-3-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1125	2-fluoropyridin-3-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1126	2-chloropyridin-3-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1127	2-chloropyridin-5-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1128	2-methylthiopyridin-3-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1129	pyrazin-2-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1130	furan-2-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1131	furan-3-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1132	2-tetrahydrofuran-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1133	benzofuran-2-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1134	thiophen-2-yl	Me	F	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1135	phenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1136	2-methylphenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1137	4-methylphenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1138	2-fluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1139	3-fluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1140	4-fluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1141	2-chlorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1142	4-chlorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1143	2-bromophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1144	2-iodophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1145	3-cyanophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1146	4-cyanophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1147	2-nitrophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1148	3-nitrophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1149	4-nitrophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1150	2-trifluoromethylphenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1151	4-trifluoromethylphenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1152	4-trifluoromethoxyphenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1153	2,3-difluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1154	2,4-difluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1155	2,5-difluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1156	2,6-difluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1157	2,4-dichlorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1158	2,6-dichlorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1159	3,4-dichlorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1160	2-chloro-4-nitrophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1161	2-chloro-4-fluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1162	2-chloro-6-fluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1163	4-chloro-2-fluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1164	4-chloro-2-nitrophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1165	2,3,6-trifluorophenyl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1166	pyridin-2-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1167	pyridin-3-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1168	2-fluoropyridin-3-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1169	2-chloropyridin-3-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1170	2-chloropyridin-5-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1171	2-methylthiopyridin-3-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1172	pyrazin-2-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1173	furan-2-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1174	thiophen-2-yl	Me	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1175	phenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1176	2-methylphenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1177	4-methylphenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1178	2-fluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1179	3-fluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1180	4-fluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1181	2-chlorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1182	4-chlorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1183	2-bromophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1184	2-iodophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1185	3-cyanophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1186	4-cyanophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1187	2-nitrophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1188	3-nitrophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1189	4-nitrophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1190	2-trifluoromethylphenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1191	4-trifluoromethylphenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1192	4-trifluoromethoxyphenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1193	2,3-difluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1194	2,4-difluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1195	2,5-difluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1196	2,6-difluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1197	2,4-dichlorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1198	2,6-dichlorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1199	3,4-dichlorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1200	2-chloro-4-nitrophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1201	2-chloro-4-fluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1202	2-chloro-6-fluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1203	4-chloro-2-fluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1204	4-chloro-2-nitrophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1205	2,3,6-trifluorophenyl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1206	pyridin-2-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1207	pyridin-3-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1208	2-fluoropyridin-3-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1209	2-chloropyridin-3-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1210	2-chloropyridin-5-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1211	2-methylthiopyridin-3-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1212	pyrazin-2-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1213	furan-2-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1214	thiophen-2-yl	Me	F	H	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1215	phenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1216	2-methylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1217	4-methylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1218	2-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1219	3-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1220	4-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1221	2-chlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1222	4-chlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1223	2-bromophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1224	2-iodophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1225	3-cyanophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1226	4-cyanophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 3-continued

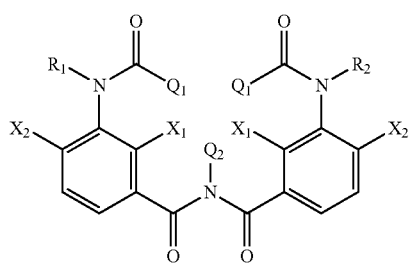
Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1227	2-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1228	3-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1229	4-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1230	2-trifluoromethylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1231	4-trifluoromethylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1232	4-trifluoromethoxyphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1233	2,3-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1234	2,4-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1235	2,5-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1236	2,6-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1237	2,4-dichlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1238	2,6-dichlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1239	3,4-dichlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1240	2-chloro-4-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1241	2-chloro-4-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1242	2-chloro-6-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1243	4-chloro-2-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1244	4-chloro-2-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1245	2,3,6-trifluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1246	pyridin-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1247	pyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1248	2-fluoropyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1249	2-chloropyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1250	2-chloropyridin-5-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1251	2-methylthiopyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1252	pyrazin-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1253	furan-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1254	thiophen-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1255	phenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1256	2-methylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1257	4-methylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1258	2-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1259	3-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1260	4-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1261	2-chlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1262	4-chlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1263	2-bromophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1264	2-iodophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1265	3-cyanophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1266	4-cyanophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1267	2-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1268	3-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1269	4-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1270	2-trifluoromethylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1271	4-trifluoromethylphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1272	4-trifluoromethoxyphenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1273	2,3-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1274	2,4-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1275	2,5-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1276	2,6-difluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1277	2,4-dichlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1278	2,6-dichlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1279	3,4-dichlorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1280	2-chloro-4-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1281	2-chloro-4-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1282	2-chloro-6-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1283	4-chloro-2-fluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1284	4-chloro-2-nitrophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1285	2,3,6-trifluorophenyl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1286	pyridin-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1287	pyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1288	2-fluoropyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1289	2-chloropyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1290	2-chloropyridin-5-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1291	2-methylthiopyridin-3-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1292	pyrazin-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1293	furan-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1294	thiophen-2-yl	Me	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1295	phenyl	Et	F	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1296	phenyl	Me	H	F	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1297	4-nitrophenyl	Me	H	F	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1298	4-cyanophenyl	Me	H	F	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1299	phenyl	Me	H	F	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1300	4-nitrophenyl	Me	H	F	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1301	4-cyanophenyl	Me	H	F	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1302	phenyl	Me	H	F	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl

TABLE 3-continued

Compound No.	Q ₁	R ₁	X ₁	X ₂	Q ₂
1303	4-nitrophenyl	Me	H	F	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1304	4-cyanophenyl	Me	H	F	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1305	phenyl	Me	H	F	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1306	4-nitrophenyl	Me	H	F	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1307	4-cyanophenyl	Me	H	F	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1308	phenyl	Me	H	F	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
1309	4-nitrophenyl	Me	H	F	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
1310	4-cyanophenyl	Me	H	F	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
1311	phenyl	H	H	H	2,6-dimethyl-4-(heptafluoroisopropyl)phenyl
1312	phenyl	H	H	H	2-bromo-4-(heptafluoroisopropyl)-6-methylphenyl
1313	phenyl	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl



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TABLE 4

Compound No.	Q ₁	R ₁	R ₂	X ₁	X ₂	Q ₂
1314	2-fluorophenyl	Me	H	H	H	2,6-dibromo-4-(pentafluoroethyl)phenyl
1315	2-fluorophenyl	Me	H	H	H	2-bromo-4-(heptafluoroisopropyl)-6-methylphenyl
1316	2-fluorophenyl	Me	H	H	H	2-ethyl-4-(heptafluoroisopropyl)-6-methylphenyl
1317	2-fluorophenyl	Me	H	H	H	4-(heptafluoroisopropyl)-2-iodo-6-methylphenyl
1318	2-fluorophenyl	Me	H	H	H	2-chloro-6-ethyl-4-(heptafluoroisopropyl)phenyl
1319	2-fluorophenyl	Me	H	H	H	2-bromo-6-ethyl-4-(heptafluoroisopropyl)phenyl
1320	2-fluorophenyl	Me	H	H	H	2-ethyl-4-(heptafluoroisopropyl)-6-iodophenyl
1321	2-fluorophenyl	Me	H	H	H	4-(heptafluoroisopropyl)-2-isopropyl-6-methylphenyl
1322	2-fluorophenyl	Me	H	H	H	2-bromo-4-(heptafluoroisopropyl)-6-n-propylphenyl
1323	2-fluorophenyl	Me	H	H	H	2-bromo-4-(heptafluoroisopropyl)-6-(trifluoromethylthio)phenyl
1324	2-fluorophenyl	Me	H	H	H	2,6-dibromo-4-(trifluoromethylthio)phenyl
1325	2-fluorophenyl	Me	H	H	H	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1326	2-fluorophenyl	Me	H	H	H	2,6-dibromo-4-(nonafluoro-n-butylthio)phenyl
1327	2-fluorophenyl	Me	H	H	H	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
1328	2-fluorophenyl	Me	H	H	H	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl

Compound No.	Q ₁	R ₁	R ₂	X ₁	X ₂	Q ₂
1329	2-fluorophenyl	Me	H	H	H	2-bromo-6-(heptafluoroisopropoxy)-4-methylpyridin-3-yl
1330	2-fluorophenyl	Me	H	H	H	2,4-dimethyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1331	2-fluorophenyl	Me	H	H	H	2-chloro-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1332	2-fluorophenyl	Me	H	H	H	2-bromo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1333	2-fluorophenyl	Me	H	H	H	2-iodo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1334	2-fluorophenyl	Me	H	F	H	2,6-dibromo-4-(pentafluoroethyl)phenyl
1335	4-fluorophenyl	Me	H	F	H	2-bromo-4-(heptafluoroisopropyl)-6-methylphenyl
1336	4-fluorophenyl	Me	H	F	H	2-ethyl-4-(heptafluoroisopropyl)-6-methylphenyl
1337	4-fluorophenyl	Me	H	F	H	4-(heptafluoroisopropyl)-2-iodo-6-methylphenyl
1338	phenyl	Me	H	F	H	2-chloro-6-ethyl-4-(heptafluoroisopropyl)phenyl
1339	4-fluorophenyl	Me	H	F	H	2-bromo-6-ethyl-4-(heptafluoroisopropyl)phenyl
1340	phenyl	Me	H	F	H	2-ethyl-4-(heptafluoroisopropyl)-6-iodophenyl
1341	phenyl	Me	H	F	H	4-(heptafluoroisopropyl)-2-isopropyl-6-methylphenyl
1342	phenyl	Me	H	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl
1343	phenyl	Me	H	F	H	4-(heptafluoroisopropyl)-2-iodo-6-(trifluoromethyl)phenyl
1344	4-fluorophenyl	Me	H	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl
1345	4-fluorophenyl	Me	H	F	H	4-(heptafluoroisopropyl)-2-iodo-6-(trifluoromethyl)phenyl
1346	2,6-difluorophenyl	Me	H	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl
1347	2-fluorophenyl	Me	H	F	H	2,6-dibromo-4-(trifluoromethylthio)phenyl
1348	phenyl	Me	H	F	H	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1349	4-fluorophenyl	Me	H	F	H	2,6-dibromo-4-(nonafluoro-n-butylthio)phenyl
1350	2-fluorophenyl	Me	H	F	H	2,6-dichloro-4-(heptafluoroisopropylsulfonyl)phenyl
1351	2-fluorophenyl	Me	H	F	H	2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)phenyl
1352	4-fluorophenyl	Me	H	F	H	2-bromo-6-(heptafluoroisopropoxy)-4-methylpyridin-3-yl
1353	2-fluorophenyl	Me	H	F	H	2,4-dimethyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1354	2-fluorophenyl	Me	H	F	H	2-chloro-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1355	2-fluorophenyl	Me	H	F	H	2-bromo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1356	2-fluorophenyl	Me	H	F	H	2-iodo-4-methyl-6-(2,2,2-trifluoro-1-trifluoromethylethoxy)pyridin-3-yl
1357	4-nitrophenyl	Me	H	F	H	2-bromo-4-(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl
1358	4-nitrophenyl	Me	H	F	H	4-(heptafluoroisopropyl)-2-iodo-6-(trifluoromethyl)phenyl
1359	phenyl	Me	H	F	H	2,4-bis(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl
1360	phenyl	Me	H	F	H	4-bromo-2-(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl
1361	phenyl	Me	H	F	H	2,6-dibromo-4-(nonafluoro-s-butyl)-6-(trifluoromethyl)phenyl

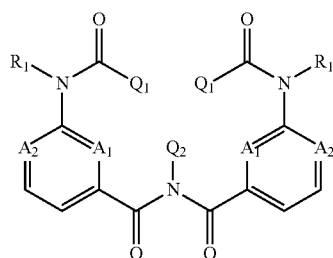


TABLE 5

Compound No.	Q ₁	R ₁	A ₁	A ₂	Q ₂
1362	phenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1363	2-methylphenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1364	4-methylphenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1365	2-fluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1366	3-fluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1367	4-fluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1368	2-chlorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1369	4-chlorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1370	2-bromophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1371	2-iodophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1372	3-cyanophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1373	4-cyanophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1374	2-nitrophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1375	3-nitrophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1376	4-nitrophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1377	2-trifluoromethylphenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1378	4-trifluoromethylphenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1379	4-trifluoromethoxyphenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1380	2,3-difluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1381	2,4-difluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1382	2,5-difluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1383	2,6-difluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1384	2,4-dichlorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1385	2,6-dichlorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1386	3,4-dichlorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1387	2-chloro-4-nitrophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1388	2-chloro-4-fluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1389	2-chloro-6-fluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1390	4-chloro-2-fluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1391	4-chloro-2-nitrophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1392	2,3,6-trifluorophenyl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1393	pyridin-2-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1394	pyridin-3-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1395	pyridin-4-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1396	2-fluoropyridin-3-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1397	2-chloropyridin-3-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1398	2-chloropyridin-5-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1399	2-methylthiopyridin-3-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1400	pyrazin-2-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1401	furan-2-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1402	thiophen-2-yl	H	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1403	phenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1404	2-methylphenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1405	4-methylphenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1406	2-fluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1407	3-fluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1408	4-fluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1409	2-chlorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1410	4-chlorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1411	2-bromophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1412	2-iodophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1413	3-cyanophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1414	4-cyanophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1415	2-nitrophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1416	3-nitrophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1417	4-nitrophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1418	2-trifluoromethylphenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1419	4-trifluoromethylphenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1420	4-trifluoromethoxyphenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 5-continued

Compound No.	Q ₁	R ₁	A ₁	A ₂	Q ₂
1421	2,3-difluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1422	2,4-difluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1423	2,5-difluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1424	2,6-difluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1425	2,4-dichlorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1426	2,6-dichlorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1427	3,4-dichlorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1428	2-chloro-4-nitrophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1429	2-chloro-4-fluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1430	2-chloro-6-fluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1431	4-chloro-2-fluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1432	4-chloro-2-nitrophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1433	2,3,6-trifluorophenyl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1434	pyridin-2-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1435	pyridin-3-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1436	2-fluoropyridin-3-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1437	2-chloropyridin-3-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1438	2-chloropyridin-5-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1439	2-methylthiopyridin-3-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1440	pyrazin-2-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1441	furan-2-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1442	thiophen-2-yl	H	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1443	phenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1444	2-methylphenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1445	4-methylphenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1446	2-fluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1447	3-fluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1448	4-fluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1449	2-chlorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1450	4-chlorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1451	2-bromophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1452	2-iodophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1453	3-cyanophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1454	4-cyanophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1455	2-nitrophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1456	3-nitrophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1457	4-nitrophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1458	2-trifluoromethylphenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1459	4-trifluoromethylphenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1460	4-trifluoromethoxyphenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1461	2,3-difluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1462	2,4-difluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1463	2,5-difluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1464	2,6-difluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1465	2,4-dichlorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1466	2,6-dichlorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1467	3,4-dichlorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1468	2-chloro-4-nitrophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1469	2-chloro-4-fluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1470	2-chloro-6-fluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1471	4-chloro-2-fluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1472	4-chloro-2-nitrophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1473	2,3,6-trifluorophenyl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1474	pyridin-2-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1475	pyridin-3-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1476	2-fluoropyridin-3-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1477	2-chloropyridin-3-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1478	2-chloropyridin-5-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1479	2-methylthiopyridin-3-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1480	pyrazin-2-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1481	furan-2-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1482	thiophen-2-yl	Me	N	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1483	phenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1484	2-methylphenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1485	4-methylphenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1486	2-fluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1487	3-fluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1488	4-fluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1489	2-chlorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1490	4-chlorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1491	2-bromophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1492	2-iodophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1493	3-cyanophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1494	4-cyanophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1495	2-nitrophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

TABLE 5-continued

Compound No.	Q ₁	R ₁	A ₁	A ₂	Q ₂
1496	3-nitrophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1497	4-nitrophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1498	2-trifluoromethylphenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1499	4-trifluoromethylphenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1500	4-trifluoromethoxyphenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1501	2,3-difluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1502	2,4-difluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1503	2,5-difluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1504	2,6-difluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1505	2,4-dichlorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1506	2,6-dichlorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1507	3,4-dichlorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1508	2-chloro-4-nitrophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1509	2-chloro-4-fluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1510	2-chloro-6-fluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1511	4-chloro-2-fluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1512	4-chloro-2-nitrophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1513	2,3,6-trifluorophenyl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1514	pyridin-2-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1515	pyridin-3-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1516	2-fluoropyridin-3-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1517	2-chloropyridin-3-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1518	2-chloropyridin-5-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1519	2-methylthiopyridin-3-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1520	pyrazin-2-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1521	furan-2-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1522	thiophen-2-yl	Me	N	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1523	phenyl	H	C	N	2,6-dimethyl-4-heptafluoroisopropylphenyl
1524	phenyl	H	C	N-oxide	2,6-dimethyl-4-heptafluoroisopropylphenyl
1525	phenyl	H	N-oxide	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1526	2-fluorophenyl	H	N-oxide	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1527	phenyl	H	N-oxide	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1528	2-fluorophenyl	H	N-oxide	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1529	phenyl	Me	N-oxide	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1530	2-fluorophenyl	Me	N-oxide	C	2,6-dimethyl-4-heptafluoroisopropylphenyl
1531	phenyl	Me	N-oxide	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1532	2-fluorophenyl	Me	N-oxide	C	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

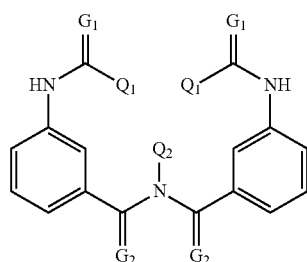


TABLE 6

Compound No.	Q ₁	G ₁	G ₁	Q ₂
1533	phenyl	O	S	2,6-dimethyl-4-heptafluoroisopropylphenyl
1534	phenyl	S	O	2,6-dimethyl-4-heptafluoroisopropylphenyl
1535	phenyl	S	S	2,6-dimethyl-4-heptafluoroisopropylphenyl
1536	phenyl	O	S	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1537	phenyl	S	O	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1538	phenyl	S	S	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1539	phenyl	O	S	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1540	phenyl	S	O	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1541	phenyl	S	S	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1542	phenyl	O	S	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1543	phenyl	S	O	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl
1544	phenyl	S	S	2-bromo-4-(heptafluoroisopropyl)-6-(methylsulfonyl)phenyl

TABLE 6-continued

Compound No.	Q ₁	G ₁	G ₂	Q ₂
1545	phenyl	O	S	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1546	phenyl	S	O	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1547	phenyl	S	S	2-n-propyl-6-iodo-4-(heptafluoroisopropyl)phenyl
1548	phenyl	O	S	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1549	phenyl	S	O	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1550	phenyl	S	S	2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)phenyl
1551	phenyl	O	S	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1552	phenyl	S	O	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1553	phenyl	S	S	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl

The insecticide including as an active ingredient the imide compound represented by Formula (1) according to the invention is suitable for controlling pests such as various agricultural pests, horticultural pests, or stored grain pests damaging useful crops including paddy-field rice, fruit trees, vegetables, other crops, or ornamental flowers; insanitary pests; or nematodes.

The insecticide exhibits a strong insecticidal effect against pests such as lepidopteran pests such as *Diaphania indica*, *Homona magnanima*, *Hellula undalis*, *Adoxophyes orana* *faciata*, *Adoxophyes* sp., *Archips fuscocupreanus*, *Carposina niponensis*, *Grapholita inopinata*, *Grapholita molesta*, *Leguminivora glycinivorella*, *Olethreutes mori*, *Phyllocnistis citrella*, *Stathmopoda masinissa*, *Caloptilia theivora*, *Caloptilia zachrysa*, *Phyllonotyper ringoniella*, *Spulerina astaurola*, *Papilio xuthus*, *Pieris rapae crucivora*, *Helicoverpa armigera*, *Lapsey resia pomonella*, *Plutella xylostella*, *Argyresthia conjugella*, *Carposina niponensis*, *Chilo suppressalis*, *Cnaphalocrocis medinalis*, *Ephesia elutella*, *Glyphodes pyralis*, *Scirpophaga incertulas*, *Parnara guttata*, *Pseudaletia separata*, *Sesamia inferens*, *Mamestra brassicae*, *Spodoptera litura*, *Spodoptera exigua*, *Agrotis ipsilon*, *Agrotis segetum*, *Autographa nigrisigna*, or *Trichoplusia ni*; Hemipteran pests such as *Macrostelus fascifrons*, *Nephotettix cincticeps*, *Nilaparvata lugens*, *Laodelphax striatellus*, *Sogatella furcifera*, *Diaphorina citri*, *Aleurolobus taenabae*, *Bermisia argentifolii*, *Bemisia tabaci*, *Trialeurodes vaporariorum*, *Lipaphis erysimi*, *Aphis gossypii*, *Aphis Citricola*, *Myzus persicae*, *Ceroplastes ceriferus*, *Pseudococcus Comstocki*, *Planococcus kraunhiae*, *Pulvinaria aurantii*, *Pseudonidia duplex*, *Comstockaspis perniciosus*, *Unaspis yanonensis*, *Plautia stali*, or *Halyomorpha mista*; Coleopteran pests such as *Anomala rufocuprea*, *Popillia japonica*, *Lasioderma sericorne*, *Lyctus brunneus*, *Epilachna vigintioctopunctata*, *Callosobruchus chinensis*, *Listroderes costirostris*, *Sitophilus zeamais*, *Anthonomus grandis*, *Lissorhoptrus oryzophilus*, *Aulacophora femoralis*, *Oulema oryzae*, *Phyllotreta striolata*, *Tomicus piniperda*, *Leptinotarsa decemlineata*, *Epilachna varivestis*, *Diabrotica* sp., *Psacothoe hilaris*, or *Anoplophora malasiaca*; Dipteran pests such as *Dacus (Bactrocera) dorsalis*, *Agromyza oryzae*, *Delia antiqua*, *Delia platura*, *Asphondylia* sp., *Musca domestica*, *Chromatomyia horticola*, *Liriomyza trifolii*, *Liriomyza bryoniae*, or *Culex pipiens pipiens*; Tylenchidan pests such as *Pratylenchus coffeae*, *Pratylenchus* sp., *Globodera rostochiensis*, *Meloidogyne* sp., *Tylenchulus semipenetrans*, *Aphelenchus avenae*, or *Aphelenchoides ritzemabosi*; Thysanopteran pests such as *Thrips palmi*, *Frankliniella occidentalis*, *Scirtothrips dorsalis*, *Thrips flavus*, or *Thrips tabaci*; or Orthopteran pests such as *Blattella germanica*, *Periplaneta americana*, or *Oxya jezoensis*.

The insecticide including as an active ingredient the imide compound represented by Formula (1) according to the

invention exhibits a significant insecticidal effect against the above-described pests that damages useful crops such as wet-field crops, dry-field crops, fruit trees, vegetables, and other crops and ornamental flowers, and therefore, the effect as an insecticide according to the invention can be obtained by treating the paddy field water, plant stems and leaves, or soil of the crops of 1 wet-field, dry-field, fruit trees, vegetables, other crops, ornamental flowers, or the like during the seasons in which the appearance of such pests is expected, or before or at the point when the pest appearance is observed.

The insecticide according to the invention is generally used as a preparation convenient for application, which is prepared according to the conventional method for agricultural/horticultural preparations. That is, the imide compound represented by Formula (1) can be put to use as a preparation in any form such as a suspension concentrate, an emulsifiable concentrate, a water-soluble powder, a wettable powder, a granular formulation, a powder formulation, or a tablet, by mixing with a suitable inert carrier, and if needed further adding an adjuvant, through the step of dissolution, separation, suspension, mixing, impregnation, adsorption and/or adhesion.

The inactive carrier that can be used in the invention may be a solid or liquid carrier. Examples of materials that can be used as the solid carrier include soybean powder, grain powder, wood flour, bark powder, sawdust, tobacco stalk powder, walnut shell flour, wheat bran, cellulose powder, extraction residue of plants, synthetic polymers such as pulverized synthetic resins, clays (such as kaolin, bentonite, or acid clay), talcs (such as talc or pyrophyllite), silicas (such as diatomite, silica sand, mica, or white carbon, i.e., synthetic high-dispersion silicic acid which is also referred to as fine hydrous silica powder or hydrous silicic acid, of which some commercial products contain calcium silicate as a major component), active carbon, sulfur powder, pumice, calcined diatomite, pulverized brick, fly ash, sand, calcium carbonate, powders of inorganic minerals such as calcium phosphate, chemical fertilizers such as ammonium sulfate, ammonium phosphate, ammonium nitrate, urea, or ammonium chloride, and manure. These materials may be used singly, or as a mixture of two or more kinds thereof.

The material that can be used as the liquid inert carrier is selected from materials which can serve as a solvent themselves and materials which cannot serve as a solvent themselves but can disperse active ingredient compounds with the help of an adjuvant. Typical examples of the liquid carrier include water, alcohols (such as methanol, ethanol, isopropanol, butanol, or ethylene glycol), ketones (such as acetone, methyl ethyl ketone, methyl isobutyl ketone, diisobutyl ketone, or cyclohexanone), ethers (such as diethyl ether, dioxane, cellosolve, diisopropyl ether, or tetrahydrofuran), aliphatic hydrocarbons (such as kerosene or mineral oil), aromatic hydrocarbons (such as benzene, toluene, xylene, solvent naphtha, or alkyl naphthalene), halogenated hydro-

carbons (such as dichloromethane, chloroform, carbon tetrachloride, or chlorinated benzene), esters (such as ethyl acetate, butyl acetate, ethyl propionate, diisobutyl phthalate, dibutyl phthalate, or dioctyl phthalate), amides (such as dimethylformamide, diethylformamide, or dimethylacetamide), and nitrites (such as acetonitrile). These materials may be used singly, or as a mixture of two or more kinds thereof.

Examples of the adjuvant include typical adjuvants listed below. These adjuvants may be used depending on the purpose. The adjuvants may be used singly, or in combination of two or more kinds thereof. In some cases, it is possible that no adjuvants are used.

A surfactant is used for emulsification, dispersion, solubilization and/or wetting of an active ingredient compound. Examples thereof include a polyoxyethylene alkyl ether, a polyoxyethylene alkyl aryl ether, a polyoxyethylene higher fatty acid ester, a polyoxyethylene resin acid ester, a polyoxyethylene sorbitan monolaurate, a polyoxyethylene sorbitan monooleate, an alkylaryl sulfonate, a naphthalene sulfonate, a lignosulfonate, and a higher alcohol sulfate.

The adjuvant such as casein, gelatin, starch, methyl cellulose, carboxymethyl cellulose, gum arabic, polyvinyl alcohol, wood turpentine oil, rice-bran oil, bentonite, xanthan gum, or a lignosulfonate may be used for dispersion-stabilization of an active ingredient compound and for adhesion and/or binding.

The adjuvant such as a wax, a stearate, or an alkyl phosphate may be used for improving the flowability of solid products. The adjuvant such as a naphthalene sulfonate condensate or a condensed phosphate may be used as a defloculant for suspension products. The adjuvant such as silicone oil may be used as defoamant.

The imide compound represented by Formula (1) according to the invention is stable against light, heat, and oxidation. If needed, an appropriate amount of antioxidant or ultraviolet absorber, for example, a phenol derivative such as BHT (2,6-di-*t*-butyl-4-methylphenol) or BHA (butylhydroxyanisole); a bisphenol derivative; an arylamine such as phenyl- β -naphthylamine, phenetidine or a condensate of acetone and phenyl- α -naphthylamine; or a benzophenone compound, is added as a stabilizer to obtain a compound exhibiting more stable effects.

The amount of the active ingredient of the imide compound represented by Formula (1) according to the invention is usually from 0.5% by weight to 20% by weight for powders, from 5% by weight to 50% by weight for emulsifiable concentrates, from 10% by weight to 90% by weight for wettable powders, from 0.1% by weight to 20% by weight for granules, or from 10% by weight to 90% by weight for flowable preparation. The amount of the carrier in each form is usually from 60% by weight to 99% by weight for powders, from 40% by weight to 95% by weight for emulsifiable concentrates, from 10% by weight to 90% by weight for wettable powders, from 80% by weight to 99% by weight for granules, or from 10% by weight to 90% by weight for flowable preparations. The amount of the adjuvant is usually from 0.1% by weight to 20% by weight for powders, from 1% by weight to 20% by weight for emulsifiable concentrates, from 0.1% by weight to 20% by weight for wettable powders, from 0.1% by weight to 20% by weight for granules, or from 0.1% by weight to 20% by weight for flowable preparations.

In order to control various pests, the compound may be applied to the crops on which appearance of the pest is expected or to places where such occurrence is not preferable as it is or as an adequate dilution with water or the like, or as a suspension, in an amount effective for disease protection.

The amount of use depends on various factors such as the purpose, the pest to be controlled, the state of plant growth, trends in pest appearance, climate, environmental conditions, formulation, method of use, place of use, and timing of use, and it is preferable to use such that the concentration of the active ingredient is from 0.0001 ppm to 5000 ppm, and preferably from 0.01 ppm to 1000 ppm. The dose per 10 a is generally from 1 g to 300 g of the active ingredient.

The insecticide that includes as an active ingredient the imide compound represented by Formula (1) according to the invention may be used singly for controlling pests various agricultural pests, horticultural pests, or stored grain pests damaging paddy-field rice, fruit trees, vegetables, other crops, or ornamental flowers; insanitary pests; or nematodes. In order to obtain more significant control effect of controlling a wide variety of diseases and pests that appear simultaneously, the imide compound represented by Formula (1) also may be used in combination with at least one selected from insecticides and fungicides other than the imide compound.

Examples of other insecticides that can be used in combination with the imide compound represented by Formula (1) include synthetic pyrethroid insecticides such as allethrin, tetramethrin, resmethrin, phenothrin, flumethrin, permethrin, cypermethrin, deltamethrin, cyhalothrin, cyfluthrin, fenpropathrin, tralomethrin, cycloprothrin, flucythrinate, fluvalinate, acrinathrin, tefluthrin, bifenthrin, emperthrin, beta-cyfluthrin, beta-cypermethrin, or fenvalerate, and carious isomers thereof; organophosphorus insecticides such as a pyrethrum extract, DDVP, cyanophos, fenthion, fenitrothion, tetrachlorvinphos, dimethylvinphos, propaphos, methylparathion, temephos, phoxim, acephate, isofenphos, salithion, DEP, EPN, ethion, mecarbam, pyridaphenthion, diazinon, pirimiphos-methyl, etrimfos, isoxathion, quinalphos, chlorpyrifos-methyl, chlorpyrifos, phosalone, phosmet, methidathion, oxydeprofos, vamidothion, malathion, phenthoate, dimethoate, formothion, thiometon, ethyl thiometon, phorate, terbufos, profenofos, prothiofos, sulprofos, pyraclofos, monocrotophos, naled, fosthiazate, or cadusafos; carbamate insecticides such as NAG, MTMC, HIPC, BPMC, XMC, PFIC, MPMC, ethiofencarb, bendiocarb, pirimicarb, carbosulfan, benfuracarb, methomyl, oxamyl, or aldicarb; aryl propyl ether insecticides such as ethofenprox or halfenprox; silyl ethers such as silafluofen; pest-control natural products such as nicotine sulfate, polynactin, abamectin, milbemectin, or BT; insecticides such as cartap, thiocyclam, bensultap, diflubenuron, chlorflazuron, teflubenzuron, triflumuron, flufenoxuron, flucycloxuron, hexaflumuron, fluzuron, imidacloprid, nitenpyram, acetamiprid, dinotefuran, pymetrozine, fipronil, buprofezin, fenoxycarb, pyriproxyfen, methoprene, hydroprene, kinoprene, endosulfan, diafenthion, triazuron, tebufenozide, or benzoepin; miticides such as dicofol, chlorobenzilate, phenisobromolate, tetradifon, CPCBS, BPPS, quinomethionate, amitraz, benzoate, hexythiazox, fenbutatin oxide, cyhexatin, dienochlor, clofentezine, pyridaben, fenpyroximate, fenazaquin, or tebufenpyrad; and novaluron, noviflumuron, emamectin benzoate, clothianidin, thiacloprid, thiamethoxam, flupyrzafos, acequinocyl, bifenazate, chromafenozide, etoxazole, fluacrypyrim, flufenzine, halofenozide, indoxacarb, methoxyfenozide, spirodiclofen, tolfenpyrad, gamma-cyhalothrin, ethiprole, amidoflumet, bistrifluron, flonicamid, flubrocyrthrin, flufenimer, pyridalyl, pyrimidifen, spinosad, and spiromesifen.

Examples of the fungicide that can be used in combination with imide compound represented by Formula (1) include azole fungicides such as triadimefon, hexaconazole, propiconazole, ipconazole, prochloraz, or triflumizole; pyrimidine

83

fungicides such as pyrifenoxy or fenarimol; anilinopyrimidine fungicides such as mepanipyrim or cyprodinil; acylalanine fungicides such as metalaxyl, oxadixyl, or benalaxyl; benzimidazole fungicides such as thiophanate-methyl or benomyl; dithiocarbamate fungicides such as manzeb, propineb, zineb, or metiram; organic chlorinated fungicides such as tetrachloroisophthalonitrile; carboxamide fungicides such as carpropamid or ethaboxam; morpholin fungicides such as dimethomorph; strobilurin fungicides such as azoxystrobin, kresoxim-methyl, metominostrobin, orysastrobin, fluoxastrobin, trifloxystrobin, dimoxystrobin, pyraclostrobin, or picoxystrobin; dicarboximide fungicides such as iprodione or procymidone; soil fungicides such as flusulfamide, dazomet, methyl isothiocyanate, or chloropicrin; copper fungicides such as basic copper chloride, basic copper sulfate, copper nonylphenol sulfonate, copper-oxinate, or DBEDC; inorganic fungicides such as sulfur or zinc sulfate; organic phosphorus fungicides such as edifenphos, tolclofos-methyl, or fosetyl; melanin biosynthesis inhibiting fungicides such as fthalide, tricyclazole, pyroquilon, or diclofmet; antibiotic fungicides such as kasugamycin, validamycin, or polyoxin; natural-product fungicides such as rapeseed oil; and fungicides such as benthiavalicarb-isopropyl, improvalicarb, cyflufenamid, fenhexamid, quinoxifen, spiroxamine, diflumetorim, metrafenone, picobenzamid, proquinazid, silthiofam, oxpoconazole, famoxadone, cyazofamid, fenamidone, furametpyr, zoxamide, boscalid, tiadinil, simeconazole, chlorothalonil, cymoxanil, captan, dithianon, fluazinam, folpet, dichlofluanid, (RS)-N-[2-(1,3-dimethylbutyl)thiophen-3-yl]-1-methyl-3-trifluoromethyl-1H-pyrazole-4-carboxamide (generic name: penthiopyrad, pending), oxycarboxin, mepronil, flutolanil, triforine, oxolinic acid, probenazole, acibenzolar-S-methyl, isoprothiolane, ferimzone, diclomezine, pencycuron, fluoroimide, chinomethionat, iminocadine-triacetate, or iminocadine-albesilate.

In a case in which the imide compound represented by Formula (1) is used in combination with at least one selected from other insecticides and fungicides, the imide compound represented by Formula (1) may be used as a mixed composition together with at least one selected from other insecticides and fungicides; or the imide compound represented by Formula (1) and at least one selected from other insecticides and fungicides may be mixed when the insecticide is applied.

Other than the other insecticides and fungicides described above, imide compound represented by Formula (1) may be mixed with a plant protecting agent and/or a material, such as a herbicide, a fertilizer, an amendment, or a plant growth regulators, whereby a multipurpose composition with a significant effect can be obtained and a composition with an additive effect or a synergetic effect can be expected.

EXAMPLES

Representative Examples of the invention are described with reference to the following Examples, but the invention is not limited thereto. The ¹H-NMR chemical shift values are shown in ppm downfield from tetramethylsilane reference. In addition, “s” means singlet, “d” means doublet, “t” means triplet, “m” means multiplet, and “brs” means broad singlet. Unless otherwise specified, “%” and “part(s)” are based on mass.

Example 1-1

Synthesis of N-[2-fluoro-3-[benzoyl(methyl)amino]benzoyl]-3-[benzoyl(methyl)amino]-N-[2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1342)

1.00 g of 2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)aniline, 0.89 g of triethylamine, 0.03 g of N,N-dimethyl-4-aminopyridine, and 1.57 g of 2-fluoro-3-(N-methylbenzamide)benzoyl chloride were added to 4.00 g of 1,3-dimethylimidazolidin-2-one, and the mixture was stirred for 1 hour at room temperature. The resultant was extracted with ethyl acetate and washed with saturated saline, and then the organic layer was dried over anhydrous magnesium sulfate. The magnesium sulfate was filtered off, and the filtrate was concentrated. The resultant was purified on silica gel column chromatography to obtain 2.20 g of the desired imide compound (yield: 97%) as a white solid.

ethyl-4-aminopyridine, and 1.57 g of 2-fluoro-3-(N-methylbenzamide)benzoyl chloride were added to 4.00 g of 1,3-dimethylimidazolidin-2-one, and the mixture was stirred for 1 hour at room temperature. The resultant was extracted with ethyl acetate and washed with saturated saline, and then the organic layer was dried over anhydrous magnesium sulfate. The magnesium sulfate was filtered off, and the filtrate was concentrated. The resultant was purified on silica gel column chromatography to obtain 2.20 g of the desired imide compound (yield: 97%) as a white solid.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.44 (s, 1H), 7.99 (s, 1H), 7.60-7.57 (m, 2H), 7.51 (brs, 2H), 7.30-7.18 (m, 12H), 3.12 (s, 6H)

MS (M+H)⁺=918, 920

Example 1-2

Synthesis of N-[2-fluoro-3-[benzoyl(methyl)amino]benzoyl]-3-[benzoyl(methyl)amino]-N-[2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1342)

1.00 g of 2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)aniline, 0.89 g of triethylamine, 0.03 g of N,N-dimethyl-4-aminopyridine, 1.57 g of 2-fluoro-3-(N-methylbenzamide)benzoyl chloride, and 3.00 g of toluene were mixed, and the mixture was stirred for 4 hours at 90° C. The resultant was extracted with ethyl acetate and washed with saturated saline, and then the organic layer was dried over anhydrous magnesium sulfate. The magnesium sulfate was filtered off, and the filtrate was concentrated. The resultant was purified on silica gel column chromatography to obtain 2.16 g of the desired imide compound (yield: 95%) as a white solid.

Example 2

Synthesis of N-[2-fluoro-3-[benzoyl(methyl)amino]benzoyl]-3-[benzoyl(methyl)amino]-N-[4-heptafluoroisopropyl-2-iodo-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1343)

3.79 g of 4-heptafluoroisopropyl-2-iodo-6-(trifluoromethyl)aniline, 2.80 g of triethylamine, 0.06 g of N,N-dimethyl-4-aminopyridine, 5.3 g of 2-fluoro-3-(N-methylbenzamide)benzoyl chloride, and 7.6 g of toluene were mixed, and the mixture was stirred for 2 hours at 90° C. The reaction solution was cooled to room temperature. Then the resultant was mixed with water and the precipitated crystal was filtered, washed with toluene and washed with water to obtain 5.87 g of the desired imide compound (yield 73%) as a pale yellow solid.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.53 (s, 1H), 7.97 (s, 1H), 7.54-7.51 (m, 4H), 7.30-7.13 (m, 12H), 3.14 (s, 6H)

MS (M+H)⁺=966

Example 3

Synthesis of N-[2-fluoro-3-[4-fluorobenzoyl(methyl)amino]benzoyl]-3-[4-fluorobenzoyl(methyl)amino]-N-[2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1344)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.44 (s, 1H), 7.97 (s, 1H), 7.64-7.62 (m, 2H), 7.50 (brs, 2H), 7.28-7.24 (m, 6H),

85

7.00-6.96 (m, 4H), 3.15 (s, 6H)

MS (M+H)⁺=954, 956

Example 4

Synthesis of N-[2-fluoro-3-[4-fluorobenzoyl(methyl)amino]benzoyl]-3-[4-fluorobenzoyl(methyl)amino]-N-[4-heptafluoroisopropyl-2-iodo-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1345)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.53 (s, 1H), 7.95 (s, 1H), 7.59-7.57 (m, 2H), 7.48 (brs, 2H), 7.28-7.22 (m, 6H), 7.01-6.97 (m, 4H), 3.16 (s, 6H)

MS (M+H)⁺=1002

Example 5

Synthesis of N-[2-fluoro-3-[2,6-difluorobenzoyl(methyl)amino]benzoyl]-3-[2,6-difluorobenzoyl(methyl)amino]-N-[2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1346)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.46 (s, 1H), 8.01 (s, 1H), 7.33-7.30 (m, 4H), 7.25-7.11 (m, 5H), 6.86 (brs, 3H), 3.17 (s, 6H)

MS (M+H)⁺=990, 992

Example 6

Synthesis of N-[2-fluoro-3-[4-nitrobenzoyl(methyl)amino]benzoyl]-3-[4-nitrobenzoyl(methyl)amino]-N-[2-bromo-4-heptafluoroisopropyl-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1357)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.41 (s, 1H), 8.03-8.01 (m, 4H), 7.92 (s, 1H), 7.72-7.70 (m, 6H), 7.30-7.24 (m, 2H), 3.20 (s, 6H)

MS (M+Na)⁺=1030, 1032

Example 7

Synthesis of N-[2-fluoro-3-[4-nitrobenzoyl(methyl)amino]benzoyl]-3-[4-nitrobenzoyl(methyl)amino]-N-[4-heptafluoroisopropyl-2-iodo-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1358)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.49 (s, 1H), 8.03-8.02 (m, 4H), 7.92 (s, 1H), 7.70-7.67 (m, 2H), 7.49-7.48 (m, 4H), 7.25-7.24 (m, 2H), 3.21 (s, 6H)

MS (M+Na)⁺=1078

86

Example 8

Synthesis of N-[2-fluoro-3-[benzoyl(methyl)amino]benzoyl]-3-[benzoyl(methyl)amino]-N-[2,4-bis(heptafluoroisopropyl)-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1359)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.48 (s, 1H), 8.07 (s, 1H), 7.57-7.54 (m, 2H), 7.34 (brs, 2H), 7.28-7.18 (m, 14H), 3.07 (s, 6H)

MS (M+H)⁺=1008

Example 9

Synthesis of N-[2-fluoro-3-[benzoyl(methyl)amino]benzoyl]-3-[benzoyl(methyl)amino]-N-[4-bromo-2-heptafluoroisopropyl-6-(trifluoromethyl)phenyl]-2-fluorobenzamide (Compound No. 1360)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 8.52 (s, 1H), 8.09 (s, 1H), 7.51-7.48 (m, 2H), 7.28-7.26 (m, 2H), 7.21-7.19 (m, 12H), 3.08 (s, 6H)

MS (M+H)⁺=918, 920

Example 10

Synthesis of N-[2-fluoro-3-[benzoyl(methyl)amino]benzoyl]-3-[benzoyl(methyl)amino]-N-[2,6-dibromo-4-(nonafluoro-2-butyl)phenyl]-2-fluorobenzamide (Compound No. 1361)

The title compound was synthesized in a manner similar to the above.

¹H-NMR (DMSO-d₆, 70° C.) δppm: 7.95 (s, 2H), 7.61-7.58 (m, 2H), 7.50 (brs, 2H), 7.29-7.26 (m, 2H), 7.22-7.16 (m, 10H), 3.21 (s, 6H)

MS (M+Na)⁺=1000, 1002

Hereinbelow, examples of preparations containing as an active ingredient the compound represented by Formula (1) according to the invention are shown, but the invention is not limited thereto. In the preparation examples, "part(s)" means "part(s) by mass".

Preparation Example 1

20 parts of the compound represented by Formula (1) according to the invention, 10 parts of SOLPOLE 355S (surfactant manufactured by TOHO Chemical Industry Co., Ltd.), and 70 parts of xylene were stirred and mixed uniformly, thereby obtaining an emulsifiable concentrate.

Preparation Example 2

10 parts of the compound represented by Formula (1) according to the invention, parts of sodium alkyl naphthalene sulfonate, 1 part of sodium lignin sulfonate, 5 parts of white carbon, and 82 parts of diatomite were stirred and mixed uniformly, thereby obtaining a wettable powder.

Preparation Example 3

0.3 parts of the compound represented by Formula (1) according to the invention and 0.3 parts of white carbon were

87

mixed uniformly, and 99.2 parts of clay and 0.2 parts of DRILESS A (manufactured by Sankyo Agro Co., Ltd.) were added thereto, followed by pulverizing and mixing uniformly, thereby obtaining a powder formulation.

Preparation Example 4

2 parts of the compound represented by Formula (1) according to the invention, 2 parts of white carbon, 2 parts of sodium lignin sulfonate, and 94 parts of bentonite were pulverized and mixed uniformly, and water was added thereto, followed by kneading, granulating, and drying, thereby obtaining a granular formulation.

Preparation Example 5

20 parts of the compound represented by Formula (1) according to the invention and 5 parts of a 20% aqueous solution of polyvinyl alcohol were sufficiently stirred and mixed, and then 75 parts of an 0.8% aqueous solution of xanthan gum was added thereto, followed by stirring and mixing again, thereby obtaining a flowable formulation.

Hereinbelow, in order to demonstrate the significant pest controlling effect of the imide compound represented by Formula (1) according to the invention, the following Test Examples are shown, but the invention is not limited thereto.

Test Example 1

Insecticidal Test against *Spodoptera litura*

A piece of a cabbage leaf was immersed for 30 seconds in a chemical solution in which a test compound had been prepared at a predetermined concentration, and air-dried, and then put into a 7 cm polyethylene cup. To the cup, 2-stage larvae of *Spodoptera litura* were released. They were left to stand in a thermostatic chamber at 25° C., and the numbers of the living pests and the dead pests were examined after 3 days. The test was carried out with five larvae per group in two replicates.

As a result, the compounds of Compound Nos. 1342, 1343, 1344, 1345, 1357, 1358, and 1361 showed an insecticidal death rate of 70% or more at a concentration of 100 ppm.

Test Example 2

Insecticidal Test against *Plutella xylostella*

A piece of a cabbage leaf was immersed for 30 seconds in a chemical solution in which a test compound had been prepared at a predetermined concentration, and air-dried, and then put into a 7 cm polyethylene cup. To the cup, 2-stage larvae of *Plutella xylostella* were released. They were left to stand in a thermostatic chamber at 25° C., and the numbers of the living pests and the dead pests were examined after 3 days. The test was carried out with five larvae per group in two replicates.

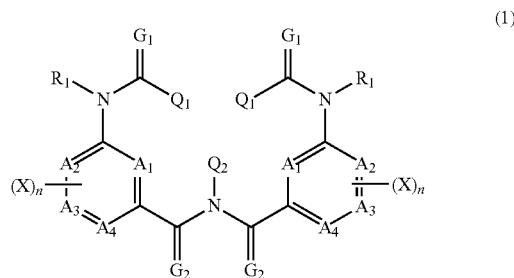
As a result, the compounds of Compound Nos. 1342, 1343, 1344, 1357, 1358, and 1361 showed an insecticidal death rate of 70% or more at a concentration of 100 ppm.

All publications, patent applications, and technical standards mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent application, or technical standard was specifically and individually indicated to be incorporated by reference.

88

The invention claimed is:

1. An imide compound represented by the following Formula (1):



wherein, in Formula (1), each of A₁, A₂, A₃, and A₄ independently represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; each R₁ independently represents a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a C2-C4 alkylcarbonyl group which may be substituted; each of G₁ and G₂ independently represents an oxygen atom or a sulfur atom; each X independently represents a hydrogen atom, a halogen atom, a C1-C3 alkyl group, or a trifluoromethyl group; when there are two or more X's, each X may be the same as or different from one another; and n represents an integer from 0 to 4; and

wherein each Q₁ independently represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted; and Q₂ represents a phenyl group or a heterocyclic group, each of which has one or more substituents, wherein at least one of the one or more substituents represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group.

2. The imide compound according to claim 1, wherein, in Formula (1),

each R₁ independently represents a hydrogen atom or a C1-C4 alkyl group;

each X independently represents a hydrogen atom, a halogen atom, or a trifluoromethyl group;

each Q₁ independently represents:

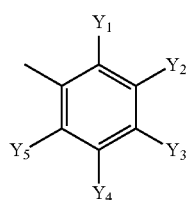
a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxycarbonyl group, an acetamino group and a phenyl group; or

a heterocyclic group selected from the group consisting of a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a pyrazyl group, a

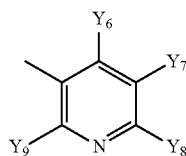
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furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, an imidazolyl group, a triazolyl group, a pyrrole group, a pyrazolyl group and a tetrazolyl group, wherein the heterocyclic group may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetylamino group and a phenyl group; and Q_2 represents:

a phenyl group having a substituent represented by the following Formula (2):



wherein, in Formula (2), each of Y_1 and Y_5 independently represents a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, or a cyano group; Y_3 represents a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group; and each of Y_2 and Y_4 independently represents a hydrogen atom, a halogen atom, or a C1-C4 alkyl group; or a pyridyl group having a substituent represented by the following Formula (3):

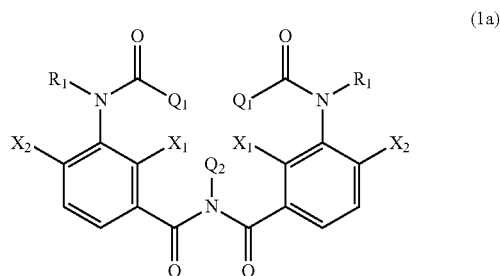


wherein, in Formula (3), each of Y_6 and Y_9 independently represents a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, or a cyano group; Y_7 represents a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group; and each of Y_8 and Y_9 independently represents a hydrogen atom, a halogen atom, or a C1-C4 alkyl group; or a pyridyl group having a substituent represented by the following Formula (4):

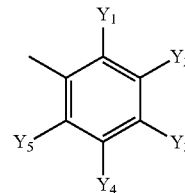
90

nyl group, or a cyano group; Y_8 represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group; and Y_7 represents a hydrogen atom, a halogen atom, or a C1-C4 alkyl group.

3. The imide compound according to claim 2, represented by the following Formula (1a):



wherein, in Formula (1a), Q_2 represents a phenyl group having a substituent represented by the following Formula (2):



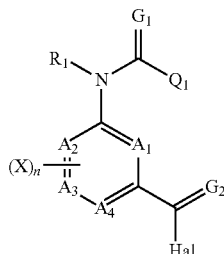
wherein, in Formula (2), each of Y_1 and Y_5 independently represents a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, or a cyano group; Y_3 represents a C2-C6 perfluoroalkyl group; and each of Y_2 and Y_4 independently represents a hydrogen atom or a C1-C4 alkyl group, each of X_1 and X_2 independently represents a hydrogen atom or a fluorine atom; R_1 represents a hydrogen atom or a C1-C4 alkyl group; and Q_1 represents:

a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a cyano group and a nitro group, or a pyridyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a cyano group and a nitro group.

4. A method of manufacturing the imide compound represented by Formula (1) according to claim 1, the method comprising:

reacting a compound represented by the following Formula (4) with a compound represented by the following Formula (5):

91



wherein, in Formula (4), each of A₁, A₂, A₃, and A₄ independently represents a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R₁ represents a hydrogen atom, a C1-C4 alkyl group, or a C1-C4 alkylcarbonyl group; each of G₁ and G₂ independently represents an oxygen atom or a sulfur atom; each X independently represents a hydrogen atom, a halogen atom, a C1-C3 alkyl group, or a trifluoromethyl group; when there are two or more X's, each X may be the same as or different from one another; and n represents an integer from 0 to 4;

Q₁ represents a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted; and Hal represents a chlorine atom or a bromine atom,



wherein, in Formula (5), Q₂ represents a phenyl group or a heterocyclic group, each of which has one or more substituents, in which at least one of the one or more substituents represents a C1-C4 haloalkoxy group, a C2-C6 perfluoroalkyl group, a C1-C6 perfluoroalkylthio group, a C1-C6 perfluoroalkylsulfinyl group, or a C1-C6 perfluoroalkylsulfonyl group.

5. The method of manufacturing the imide compound according to claim 4, wherein Q₁ in Formula (4) represents:

a phenyl group that may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetylamino group and a phenyl group;

92

a heterocyclic group selected from the group consisting of a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a pyrazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, an imidazolyl group, a triazolyl group, a pyrrole group, a pyrazolyl group and a tetrazolyl group, wherein the heterocyclic group may have one or more substituents, which may be the same as or different from one another, selected from the substituent group consisting of a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C2-C4 alkenyl group, a C2-C4 haloalkenyl group, a C2-C4 alkynyl group, a C2-C4 haloalkynyl group, a C3-C6 cycloalkyl group, a C3-C6 halocycloalkyl group, a C1-C3 alkoxy group, a C1-C3 haloalkoxy group, a C1-C3 alkylthio group, a C1-C3 haloalkylthio group, a C1-C3 alkylsulfinyl group, a C1-C3 haloalkylsulfinyl group, a C1-C3 alkylsulfonyl group, a C1-C3 haloalkylsulfonyl group, a mono-(C1-C4) alkylamino group, a di-(C1-C4) alkylamino group, a cyano group, a nitro group, a hydroxy group, a formyl group, a C2-C4 alkylcarbonyl group, a C2-C4 alkylcarbonyloxy group, a C2-C4 alkoxy carbonyl group, an acetylamino group and a phenyl group;

6. An insecticide comprising, as an active ingredient, the imide compound according to claim 1.

7. An agricultural/horticultural insecticide comprising, as an active ingredient, the imide compound according to claim 1.

8. A method of using of an imide compound for protecting useful crops from pests, comprising treating a target useful crop or soil with an effective amount of the imide compound according to claim 1.

9. A composition comprising the imide compound according to claim 1 and at least one of an inert carrier or an adjuvant.

10. A mixed preparation comprising the imide compound according to claim 1 and at least one selected from an insecticide or a fungicide, other than the imide compound.

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